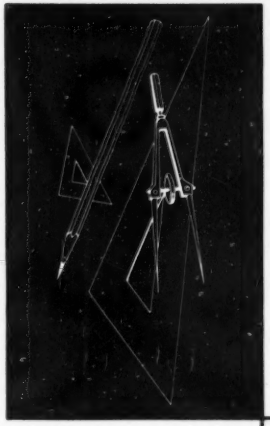
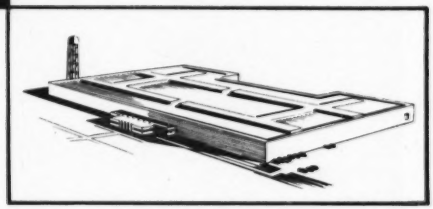
MAY, 1951

Textile Industries

formerly COTTON Textile Industries





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—The *Engineer* plans for your progress and preparedness

Every step in your process from fibre to fabric—from any raw material to finished product—can be critical if not correct. If planned and integrated with your needs, it's but a stepping stone on a smooth path to market.

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Engineers for 49 years... J. E. SIRRINE COMPANY

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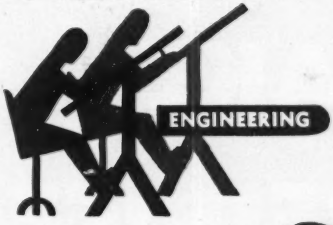
TEXTILE INDUSTRIES is published monthly at 116 E. Crawford St., Dalton, Ga., by W. R. C. Smith Publishing Company, Dalton and Atlanta, Ga., U. S. A. Executive and Editorial Offices: 806 Peachtree St., Atlanta 5, Ga.

Subscription Rates, United States and Possessions, $2.00 for one year; Canada, South America, Central America, $2.00 per year; Foreign Countries, $5.00 per year. Entered as second-class matter at the post office, Dalton, Georgia, under the Act of March 3, 1879

Volume 115 Number 5



Our loom parts SERVICE is being Doubled

We feel that in these difficult times our service to our customers is more important than ever before. Your looms must be kept in the most efficient operating condition possible.

Therefore, over one and one-half million dollars is being spent to increase the capacity of the East Spartanburg plant and to enlarge our warehouses and offices in Spartanburg and Atlanta. By the installation of additional machine tools and especially of the most modern and up-to-date mechanized equipment in the foundry, production will be more than doubled. The planned production step-up is designed to improve the delivery of loom parts.

Additional expert sales and service men have been added to our force to assist you. Backing up the sales and service force, our engineering and research departments stand ready to be of service in solving your problems. This skilled force of technicians have at their command the accumulated knowledge of over fifty years of the art of weaving on automatic looms.

If you are having trouble meeting defense or essential civilian requirements, don't hesitate to call us.

Draper automatic looms produce more cloth at less cost throughout D *the world.*

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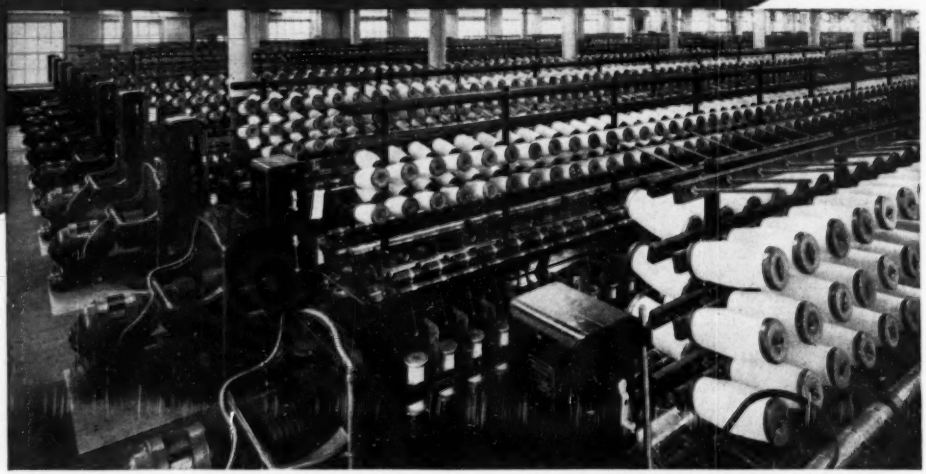
TAKE 1 STEP... REDUCE 3 COSTS



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Texaco Regal Starfak minimizes "drag" in starting and running your machines, reduces power consumption. And *Texaco Regal Starfak's* longer lasting protection means fewer applications . . . less lubrication expense.

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TEXACO Lubricants
FOR THE TEXTILE INDUSTRY

TUNE IN . . . TEXACO STAR THEATER starring MILTON BERLE on television every Tuesday night. See newspaper for time and station.

ABC

Textile Industries

COTTON

Volume 115, Number 5
May, 1951

FEATURES

TI presents another editorial extra—

PARADE OF PENSIONS 131

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"Textile Industries" has the largest circulation among the mills of the United States and Canada of any textile publication.

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Published Monthly at 116 E. Gordon
Dalton, Ga.

By W. R. C. SMITH PUB. CO.

Editorial and Executive Offices
806 Peachtree St., N.E., Atlanta 5, Ga.
Telephone: Atwood 4462

ANNUAL SUBSCRIPTION
U. S., CANADA, PAN-AMERICA—$2.00
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Only with B. F. Goodrich grommet belts can you make these savings!

Save 3 ways! Investigate today! Write or mail coupon

You save belt costs because belts last longer, save production costs because machines keep running with fewer interruptions, save maintenance costs because they need less attention.

Patented grommets by B. F. Goodrich represent the only basic change since invention of the V belt. Belts last 20 to 50 per cent longer, depending on service. (The more severe the service, the greater the increase over ordinary belts.) Grommet belts have more rubber; they're more flexible, give better grip, less slip.

What is a grommet?

A grommet is like a giant cable except that it's *endless*—a cord loop built up by winding heavy cord on itself. There is no overlapping cord *section* as in all ordinary belts. Most belt failures occur in these sections where cords overlap!

All cords put to work

Each of the two grommets and every part of a grommet carry their share of the load. In ordinary belts under high tension the center cords "dish" because tension is greater near the driving faces. Dished cords are doing less work, not pulling their share. Grommet belts have no center cords, there is no dishing—therefore much more strength in proportion to cord volume—and less stretch. Grommet belts stretch, on an average, only about one-third as much as ordinary belts.

Better grip, less slip

Grommet belts have more rubber in relation to belt size. Without any stiff overlap, they're more flexible, grip pulleys better. Size for size, grommet belts give ⅓ more gripping power, pull heavier loads with a higher safety factor. Because there is less slip, there is also less surface wear.

Send for proof

Send the coupon for a set of reprints telling users' experiences and showing actual installations where grommet belts outlasted all others. Some typical cases:

". . . within a few days ordinary belts had stretched . . . After six months of 24-hour-a-day service BFG grommet belts haven't stretched at all . . ."

"Ordinary belts lasted only 5 or 6 weeks . . . B. F. Goodrich grommet belts are in their sixth month of service . . ."

"Previous belts suffered from shock loads, wore out fast . . . BFG grommet belts have been in service 2 years with no shut-downs..."

There are hundreds of cases like these.

They cost no more

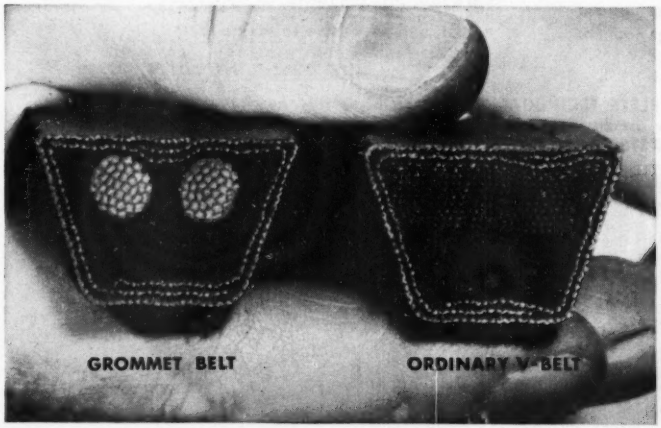
BFG grommet belts cost not one cent more than others. The savings they make for you are clear profit. They are made in C, D and E sections. They are patented by B. F. Goodrich. No other V belt is a grommet belt (U. S. Patent No. 2,233,294).

Write, send the coupon or see your B. F. Goodrich distributor. (He will show you his "X-ray" belt that shows the grommet construction clearly.)

Grommet Belts BY

B.F.Goodrich

FIRST IN RUBBER



The B. F. Goodrich Company
Dept. TI-5
Akron, Ohio

☐ Send set of reprints telling users' experiences and showing actual installations proving that B. F. Goodrich grommet belts outlast all others.

☐ Have distributor show me the "X-ray" belt that shows how B. F. Goodrich grommet belts are made.

Name_____

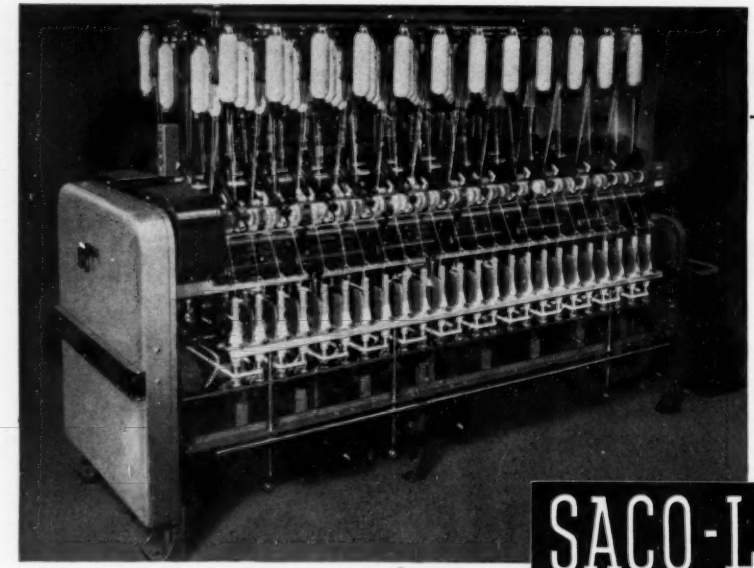
Firm Name_____

_____

Street Address_____

City_____

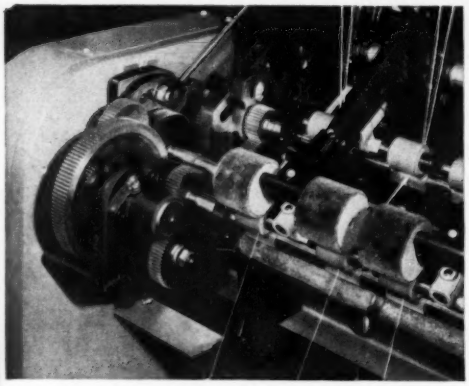
State_____



SACO-LOWELL

WORSTED SYSTEM

for Worsted and Long Staple Synthetics



Gear cover raised to show the draft gearing, and with drafting rolls down in operating position.

SACO-LOWELL's SS-4 Spinning Drafting System is a **completely new method** of drafting wools up to 6" in staple length, and longer. Heavy, cumbersome, complicated equipment heretofore seen in the average worsted yarn spinning mill is being replaced with a series of single machines, free from intricate and sensitive sub-assemblies which are hard for the operative to understand, difficult to adjust, and expensive to maintain.

A COMPLETE TECHNICAL DESCRIPTION of this new system is given in a 16-page brochure. You are invited to write for the "Saco-Lowell System for WORSTED SPINNING."

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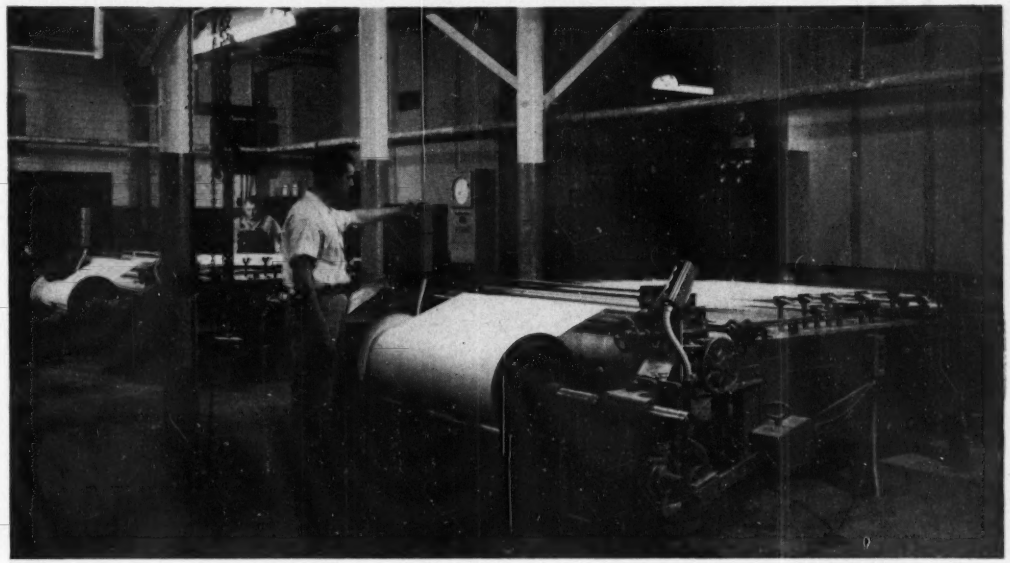
YOU FIND SEYCO PRODUCTS



Pictured above are two of the latest slashers with automatic controls and SEYCO size.

SEYCO Textile Chemicals are the result of more than four decades of constant research and experience.

Many mills tell us that SEYCO Textile Chemicals make for fewer interruptions in production and greater uniformity of product.

Our technical service men, backed by our large, modern laboratories, will gladly cooperate with you in getting best results from SEYCO Textile Chemicals.

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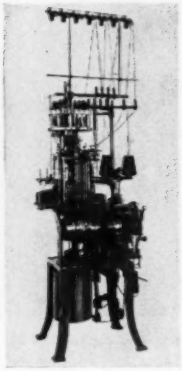
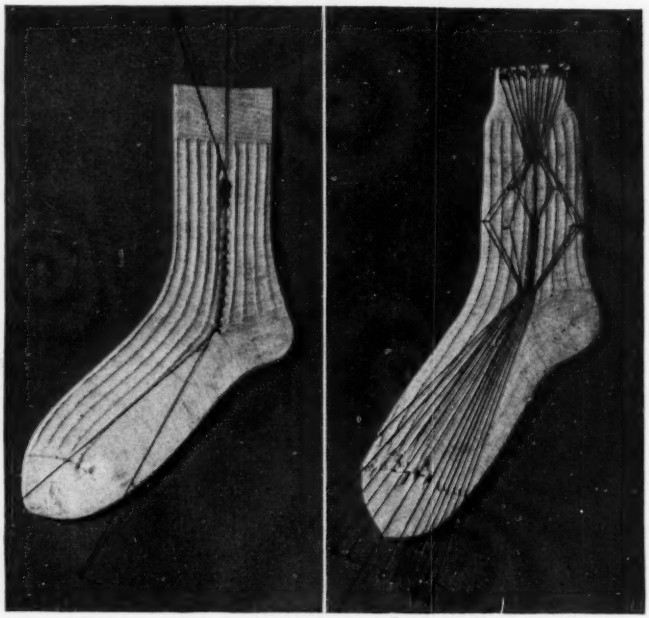
SEYCO

Saves Labor and Yarn Costs...Knits a Better Sock

THE S&W MODERN KOMET WRAP MACHINE





The inside-out S & W Komet Wrap sock (above, left) has a two-color side clock with only 2 wrap yarns for each clock – 4 per sock. In similar sock (right) not made on an S & W Machine, there are 13 wrap yarns in each clock – 26 in all – to break and trim. Compare savings in labor and yarn costs!

"My knitters can now handle *one-third* more machines, at a saving in labor costs."

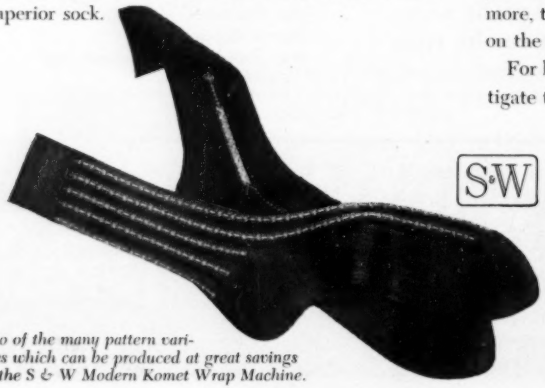
"Down time due to yarn breakage in my mill was cut considerably."

"...saves up to two-thirds in wrap yarn consumption."

Mill operators are wholeheartedly endorsing the labor- and yarn-saving features of the S&W Modern Komet Wrap Machine, as well as the fact that it knits a superior sock.

In producing smart embroidered clocks with wrapped patterns *in a single automatic operation*, this machine effects a tremendous reduction in wrap yarn wastage and breakage. Employing panel needle wrapping, where advantageous, instead of only individual needle wraping, it effects savings up to two-thirds in wrap yarn consumption, with resulting savings in labor due to yarn breakage and in machine down time. Furthermore, the finished sock is smoother and neater-looking on the inside, since there are fewer yarn ends.

For high quality wrap hose at a new low cost, investigate the S&W Modern Komet Wrap Machine.



Two of the many pattern varieties which can be produced at great savings on the S & W Modern Komet Wrap Machine.

S&W

SCOTT & WILLIAMS, INC.

Established 1865

Sales Office: Empire State Building, New York 1, N. Y.

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LONG LIFE
with Goodyear's Textile Special V-belts in spite of sheave misalignment, uneven loads, small pulleys, short centers.
GOODYEAR INDUSTRIAL RUBBER PRODUCTS
G.T.M.-Specified TEXTILE SPECIAL
V-BELT CONSTRUCTION
A Multiple-ply bias-cut fabric envelope minimizes surface wear
B Four-ply cord fabric strength member for elasticity and greater strength
C Gum cushion in compression section

TEXTILE Special V-belts by Goodyear are especially made for Textile Mill Drives—for longer service with minimum trouble. They were designed by the G.T.M.—Goodyear Technical Man — to handle high speed, short centers and small pulleys, under severest conditions — even drive misalignment.

There's a V-belt construction in the Goodyear line to handle every combination of V-drive circumstances. Ask your nearest distributor to discuss your requirements — show you that the answer to drive problems is a belt chosen from the *complete* Goodyear line.

• • •

FOR HOSE, FLAT BELTS, V-BELTS, MOLDED GOODS, PACKING, TANK LINING, RUBBER-COVERED ROLLS *built to the world's highest standard of quality, phone your nearest Goodyear Industrial Rubber Products Distributor.*

GOODYEAR

THE GREATEST NAME IN RUBBER

IMPROVED
Emery Twitchell Oils For SANFORIZED FABRICS

Now...Emery Twitchell Oils 7240 and 7250 Give You 4 Extra Advantages

1. **IMPROVED COLOR and ODOR STABILITY...** will not yellow or stain fabrics. Cannot turn rancid on fabrics during storage.
2. **GREATER HEAT STABILITY...** Major improvement in heat stability gives maximum resistance to volatilization and decomposition during processing.
3. **INCREASED RESISTANCE TO SALTING OUT...** compatibility with finishing additives such as salts and other weighting agents is improved considerably.
4. **GREATER REWETTING ABILITY...** Faster rewetting increases fabric throughput . . . gives greater overall production efficiency during compression shrinkage. More uniform rewetting results in uniform shrinkage.

In addition to the major improvements listed above, these new Emery Twitchell Oils provide the following characteristics:

FIBER LUBRICATION—The excellent lubrication characteristics provide for easy and uniform rearrangement of the fibers during the preshrinking of fabrics. Prevent sticking at the shoes, enable increased processing efficiency.

REWETTING—High rewetting speeds for faster processing and uniform rewetting of fabrics. Treated fabrics retain rewetting properties indefinitely.

SOFTNESS—For various fabrics and finishes, Twitchell Oils provide the different degrees of softness required to meet specific needs.

CHOOSE THE TWITCHELL OIL WHICH BEST MEETS YOUR REQUIREMENTS

PRODUCT	FIBER LUBRICATION	REWETTING	SOFTNESS	STAINING
Twitchell 7250	Very Good	Fastest	Softest	None
Twitchell 7240	Excellent	Fast	Moderate	None
Twitchell 7231	Excellent	Medium	Slight	None

For a recommendation to fit your particular need, contact our Sales Service Department.

EMERY INDUSTRIES, INC.
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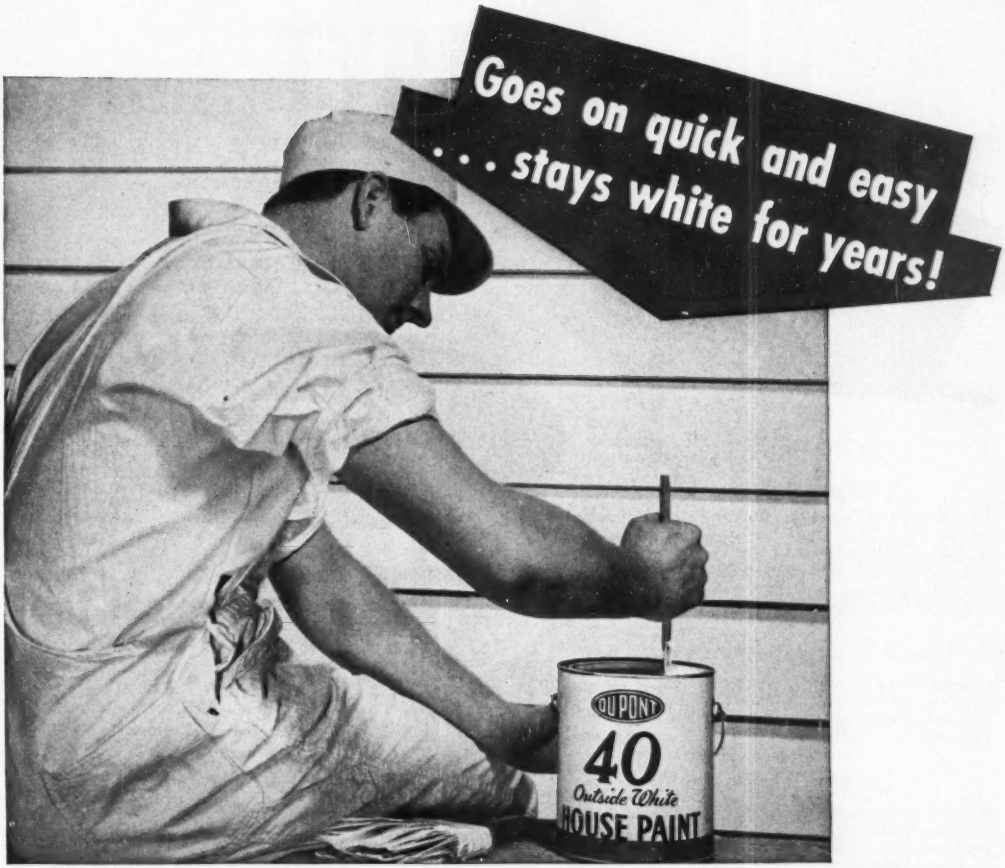

DU PONT HOUSE PAINT means a bigger return on your MILL-VILLAGE investment

DU PONT
PAINTS
for every purpose

Du Pont House Paint gives you what you want for your mill village, right from the start:

Fast, easy application, with brush or spray
Solid hiding, excellent coverage
Brilliant white . . . that *stays* white

It all adds up to lower costs per unit, both at painting time and after years of service. And, in addition, Du Pont House Paint weathers uniformly, presents a smooth surface at repaint time . . . saving you many dollars in preparation expense.

Plan now to repaint your mill-village homes with Du Pont House Paint, in famous "40" Outside White and stay-true colors. Write E. I. du Pont de Nemours & Co. (Inc.), Finishes Division, Dept. TI-15, Wilmington, Delaware.

"Cleans machinery better and faster than anything we have used before

Jarrett's Trade Mark Reg.
META-CLEAN

"... and most economical too"

That's what the man said, and he ought to know because he runs a large textile mill. A Textile Superintendent said it this way, "The only thing I've ever found to do the job right." "Saves hours of work on each machine," said another. Hundreds of other mill men say it with repeat orders.

Jarrett's META-CLEAN cleans textile machinery safely, quickly and economically. You can use it on delicate knitting needles, on spinning frames, looms, aluminum pans . . . on any equipment in your mill. Won't harm steel, iron, brass, copper, aluminum, etc. Jarrett's META-CLEAN removes oil, grease, lint, size deposits, gums, etc. Leaves a sparkling finish. No irritating fumes, non-inflammable, and soothing to skin. And it's fast . . . fast . . . fast. Cuts machine down-time to a minimum.

In these days when labor is scarce and expensive, when profit margins are being squeezed, and when top production is vital, rely on Jarrett's META-CLEAN to help solve all three problems. Write for a demonstration of Jarrett's META-CLEAN on your equipment.

For Spraying, Brushing, Wiping, or Immersion

Satisfaction Given — Not Promised

CECIL H. JARRETT COMPANY, INC.

Manufacturer & Distributor of Chemicals & Supplies, Newton, N. C.

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Continuous Duty General Purpose

General Characteristics • **SINGLE STAGE HORIZONTAL SPLIT CASE DESIGN**

DOUBLE & SINGLE SUCTION (Double Suction Sizes 1¼" through 48"; Single Suction Sizes 2" & 3")

BOTTOM SUCTION (Bottom Suction Sizes 12" through 42")

BALL BEARING

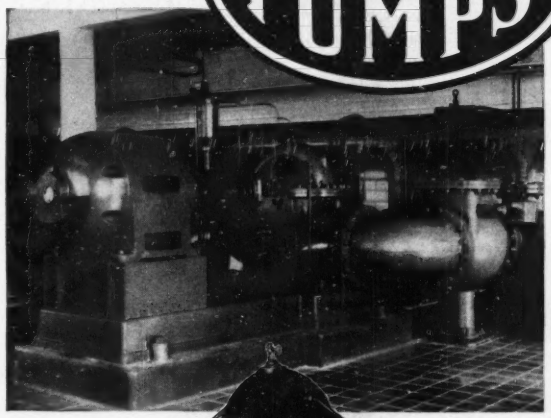
CAPACITIES: Up to 70,000 g.p.m.

HEADS: Up to 300 feet.

DRIVES: Direct-connected electric motor; belted drives; diesel, natural gas, and gasoline engine; steam turbine; combination drives.

TEMPERATURES: Handles liquids up to 300° F.

PEERLESS PUMPS



A popular size Type A, viewed from the discharge side. The horizontally split case permits easy access to rotating elements without disturbing pump alignment or piping.

TYPE A *for All purpose pumping*

Peerless Type A pumps can be used in the widest variety of general pumping services, handling clear water and light alkaline fluids, where no solids are in suspension. Applications vary from pumping water for cooling engine jacket water, to providing plant water supply.

TYPE A *for Advanced design*

Peerless Type A pumps are of the ball bearing type with horizontally split casings, for ease of inspection and maintenance. All are furnished with double suction impellers except in three small sizes where single suction design is employed. Bottom suction can be furnished in all sizes from 12" through 42".

TYPE A *for All capacities and heads*

Peerless Type A pumps offer users greatest range in capacities, delivering up to 70,000 g.p.m. Type A characteristics permit pumping against heads up to 300 feet. Liquids of temperatures to 300°F. can be safely handled.

TYPE A *for Ample safety factor*

The mechanical design of the Peerless Type A pump is as superior as its hydraulic characteristics. Oversize shafts, heavy duty ball bearings, modern design wear rings and shaft sleeves all contribute to ample protection against wear, afford a high factor of safety in operation and assure reliable service and extended pump life.

TYPE A *for Accuracy in construction*

Careful attention to every detail of design is evident in the Peerless Type A pump. For example, bearing seats are cast and bored integral with the case, assuring permanent alignment. All parts are machined to gauge on an interchangeable part system and are rigidly inspected in process.

TYPE A *for Added service life*

Every Type A pump is fully tested in Peerless' modern hydraulic testing laboratory, which can duplicate the field conditions under which the pump will be used. Experienced Peerless trained engineers located near you are at the service of pump users, architects, contractors, etc., to see that the Type A pump matches or exceeds expectations.

Write for Bulletin B-1300 describing and illustrating Type A pumps in detail.

PEERLESS PUMPS fmc

PEERLESS PUMP DIVISION
FOOD MACHINERY AND CHEMICAL CORPORATION

Address inquiries to Factories at:
Los Angeles 31, California and Indianapolis 8, Indiana
Offices: New York, Atlanta, Fresno, Los Angeles, Chicago, St. Louis, Phoenix; Dallas, Plainview and Lubbock, Texas; Albuquerque, New Mexico.

Modernize-

...with Variable Speed Drives

To get the most out of your mill, add low cost, dependable *TEXROPE* Variable Speed Drives

THE SIMPLE ADDITION of new variable speed drive equipment has helped greatly in bringing mills, like the one shown here, back into the competitive picture. Best of all, the cost is moderate.

Engineers experienced in textile mill drive applications can help you study your set-up and variable speed drives can answer your needs.

Whether you need to change speeds while your machines are shut down or in motion, there's a *Texrope* variable speed drive for the job. You'll like these drives for their quick, easy and accurate speed changing; silent operation; and smooth cushioned starts that reduce thread breakage.

Texrope drive engineers are well qualified to advise you. They have the added skill that comes from having made more industrial V-belt installations than any other manufacturer.

In addition, the *Texrope* drive line offers everything you need in V-belt drive components. Call your nearby Allis-Chalmers District Office, or write, Allis-Chalmers, Milwaukee 1, Wisconsin. A-3382

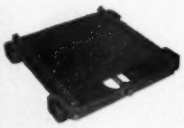
VARI-PITCH SHEAVES

Vari-Pitch Standard sheaves have speed range of 9% to 28% . . . use A, B, C, D, or E belts, *Wide Range* sheaves have 2 to 1 speed range . . use Q and R belts. Both available in stationary and motion control types. *Vari-Pitch* Automatic Sheave has 2 to 1 range. Changes speeds while motor is running.

VARI-PITCH SPEED CHANGERS

You get smooth, accurate speed control at the turn of a handwheel. You operate your machine at exactly the right speed for highest production. Enclosure keeps lint and dirt out of speed changing mechanism. Stepless speed range 3¾ to 1 Capacity 1½ to 75 hp.

TEXSLIDE MOTOR BASES



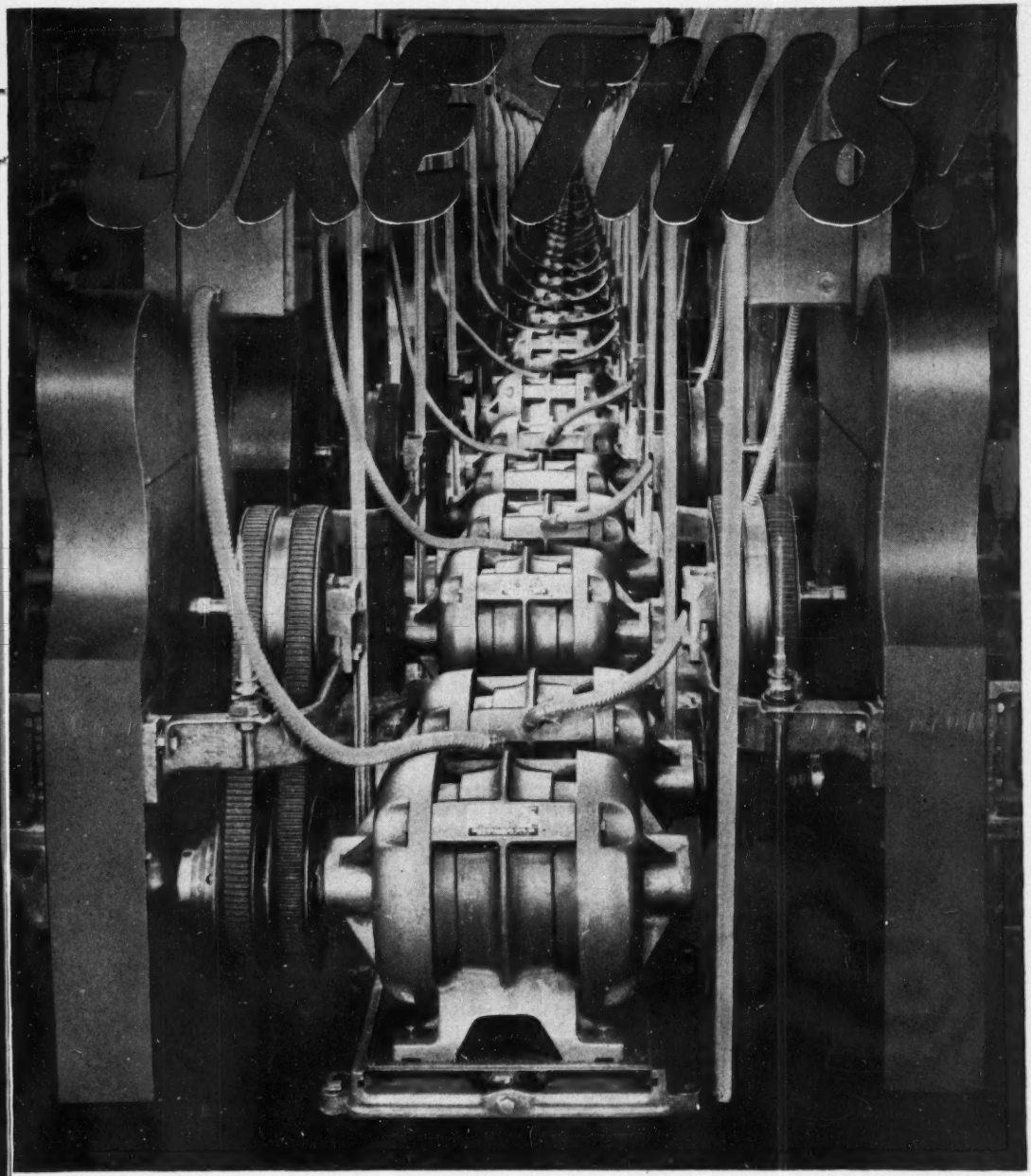
These bases are used only with wide range *Vari-Pitch* drives, since wide range drives require considerably more take-up than standard *Vari-Pitch* drives. The base provides adequate movement to compensate for belt stretch and for changes in center distance when adjustments of pitch diameter are made. It consists of plate sliding in machined slots.

TEXROPE
Greatest Name in V-Belt Drives

Texrope, Vari-Pitch and Texslide are Allis-Chalmers trademark.

ALLIS-CHALMERS

Originator of the Multiple V-Belt Drive for the Textile Industry



COMPLETE SERVICE from power line to machine

Transformers

Motor Control

Motors

Texrope Drives

A-C ALLIS-CHALMERS

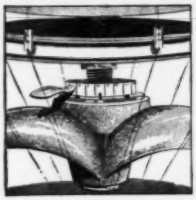
Knitting News

SUPREME ANNOUNCES NEW SUPER-RIBBER

NEW SUPREME RIBBER UTILIZES LATEST TECHNICAL ADVANCES TO GIVE TREMENDOUS PRODUCTION AND QUALITY BONUS

Before buying his next machine, the ribbed cloth knitter should see how Supreme's new machine, the Model SR, will improve quality and increase production. Some of the advantages and mechanical features which make this machine an outstanding production unit are listed below.

Some Of The Model SR's Design Features And Exclusive Knitting Advantages



1. A single action, micromatic, dial-elevating and lowering adjustment gives the knitter accurate and uniform stitch adjustment at the flip of a finger. Knit as tight or loose a stitch as desired.

2. Sturdy, dogless, tripod construction eliminates pinch lines and insures positive alignment of all elements at all times. Simplified and instantaneous synchronization of dial to cylinder needles.

3. An exclusive, new, simple method for speedily converting from plain to swiss rib.

4. Individual, channeled cams of substantial thickness lock needles in proper position at all times and eliminate possibilities of smash-ups. The knitter can remove a section for inspection and cleaning and replace it without having to realign needles by hand. The thickness of the cams provides large bearing surface for long wear, permits easier cleaning and assures less accumulation of dirt and lint.

5. Large open areas around cylinder and dial assure easy cleaning, inspection and maintenance. Greater space between knitting feeds allows quick and easy access to cloth and needles at knitting level for simple pick-up and cleaning.

6. The SR can knit a wide range and variety of yarns from extremely coarse to extremely fine with uniform quality and with a minimum of adjustments. Weak or slubbed yarns will not cause damages or interrupt production.

7. Produces cloth of high elasticity. This assures better shape retention after processing and subsequent washings.

8. Automatic control insures uniform cloth roll size. Machine stops automatically when predetermined roll size is completed.

9. Roller bearing thrust for entire center drive. Overhead gear-driven dial with center spindle of special alloy steel, hardened and ground for long wear and trouble-free operation.

The New Supreme Model SR will be available in the following sizes:

7"—10 Feeds	14"—20 Feeds	21"—30 Feeds
8"—12 Feeds	15"—22 Feeds	22"—32 Feeds
9"—12 Feeds	16"—24 Feeds	23"—34 Feeds
10"—14 Feeds	17"—24 Feeds	24"—36 Feeds
11"—16 Feeds	18"—26 Feeds	26"—38 Feeds
12"—18 Feeds	19"—28 Feeds	28"—42 Feeds
13"—18 Feeds	20"—30 Feeds	30"—44 Feeds

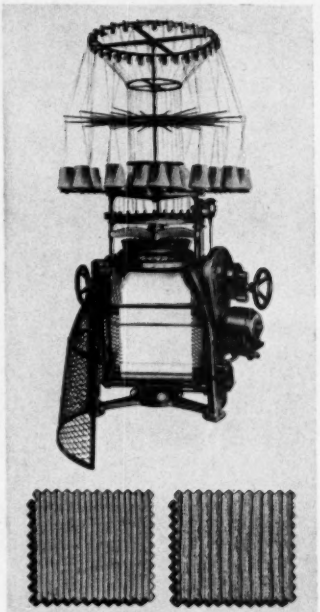
Supreme's Proven-In-Use Features Help Give New Ribber 32 Yard Per Hour Output Rate At 100% Efficiency

Supreme's entirely new line of high-speed circular rib knitting machines includes many of the revolutionary production-improving features which have made Supreme's circular jersey machines so successful.

These production-boosting features include:

● *Stationary Yarn Stand* – Permits greater RPM of the cylinder, dial and knitting elements system; lets the knitter use double cone system with "pig-tail" double tieups. Assures faster stopping and starting . . . greater safety and efficiency.

● *Revolving, Floating Take-Up and Roll-Up*—Interwinding, roller-bearing supported. Uniform tension assures large, even and compact cloth rolls. Independent support prevents wear on cylinder and outer ring.



Two of the many types of ribbed fabric for underwear and outerwear that can be produced on the Model SR. Shown above is the 21"-30 feed Model SR.

● *Unit Motor Drive* – Rugged, smooth-running. Patented multi-disc clutch gives almost instant start and stop. No slippage. Smooth, silent chain drive unaffected by lint or dust. SK-139

Write for further information and free cloth samples or ask for a factory demonstration of new Supreme SR.

Knitters who want to see the SR in action can do so by making an appointment to come to Supreme's plant. Simply write, wire or phone to let Supreme know when it will be convenient for you to come, and an appointment will be arranged.

SUPREME
KNITTING MACHINE CO., INC.
707 JOHNSON AVE. BROOKLYN 6, NEW YORK, N. Y.

COLOR
Sells Textiles
QUALITY
Keeps Them Sold
ANY well chosen colors, properly combined, give 'buy' appeal to yarn-dyed fabrics. However, only quality colors give the lasting satisfaction which builds repeat business.
Franklin Process
LARGEST PACKAGE DYERS IN THE WORLD
PROVIDENCE • PHILADELPHIA
GREENVILLE • CHATTANOOGA
NEW YORK REPRESENTATIVE 40 WORTH STREET

THIS IS NO. 86 OF A SERIES ON

GETTING THE MOST FROM WINDING

Information about winding designed to show improvements in winding equipment and new ideas in the winding operation

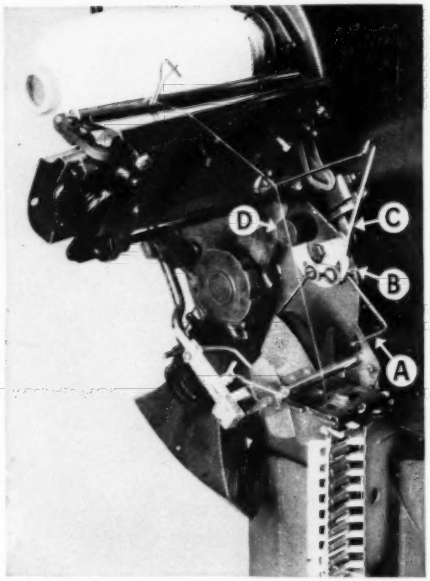


Fig. 1. High Breakage Lever on No. 50 Winder.

NEW HIGH BREAKAGE LEVER GIVES BETTER TENSION CONTROL

No. 50 Precision Winder

Fine-denier filament yarns that require extremely light tension can be wound with more accurate control of tension by equipping No. 50 Precision Winders with the new High Breakage Lever.

As illustrated in Fig. 1, the Breakage Lever extends upward from the hub to which it is attached and thus permits the yarn to pass over it. A much straighter thread line between tension and winding point is achieved because the yarn is subjected to only a slight angle as it passes the breakage lever and this angle decreases as the winding package builds up.

When the High Breakage Lever is used, extremely light tensions can be obtained without causing the breakage lever to "flutter" and place uncontrolled tension on the yarn.

The High Breakage Lever was designed primarily for winding filament yarns with the anti-wear tension, but it can also be used for other types of yarn and with the regular finger tension. It is now optional equipment on new machines. It can be applied to existing equipment by merely cutting off the standard breakage lever to form a breakage lever stop, as shown at A in Fig. 1, and then applying a filling plate (50-3499) between the hub (B) and the High Breakage Lever (C).

If desired, a new breakage lever stop (50-3453-2) can also be supplied.

When the High Breakage Lever is used on No. 50 Precision Winders equipped with the Positive Sizing Attachment, the weight (D) must be on the *outer* side of the balance as illustrated.

QUICK-DOFFING TUBE HOLDER

No. 50 Precision Winder

5/8 in. parallel tubes are more quickly donned and doffed when No. 50 Winders are equipped with holders having spring expanders (Fig. 2).

The spring expander bites into the tube and holds it firmly on the holder while winding, yet releases the tube readily for doffing.

In most cases, the single spring is sufficient to hold the tube firmly in place during winding; therefore, tube holder 5-10-23X is supplied as standard equipment. But when heavier yarns or materials are being wound, the single spring expander is not always able to overcome the pull of the yarn which may result in the tube turning on the holder. In such cases, we recommend the tube holder **5-10-23-16X** which has two spring expanders and thus provides a greater gripping surface. This tube holder is supplied as optional equipment.

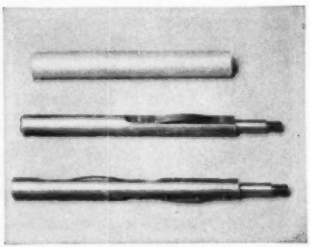


Fig. 2. Quick-doffing tube holders. The lower one is recommended for heavier yarns.

23.0.5

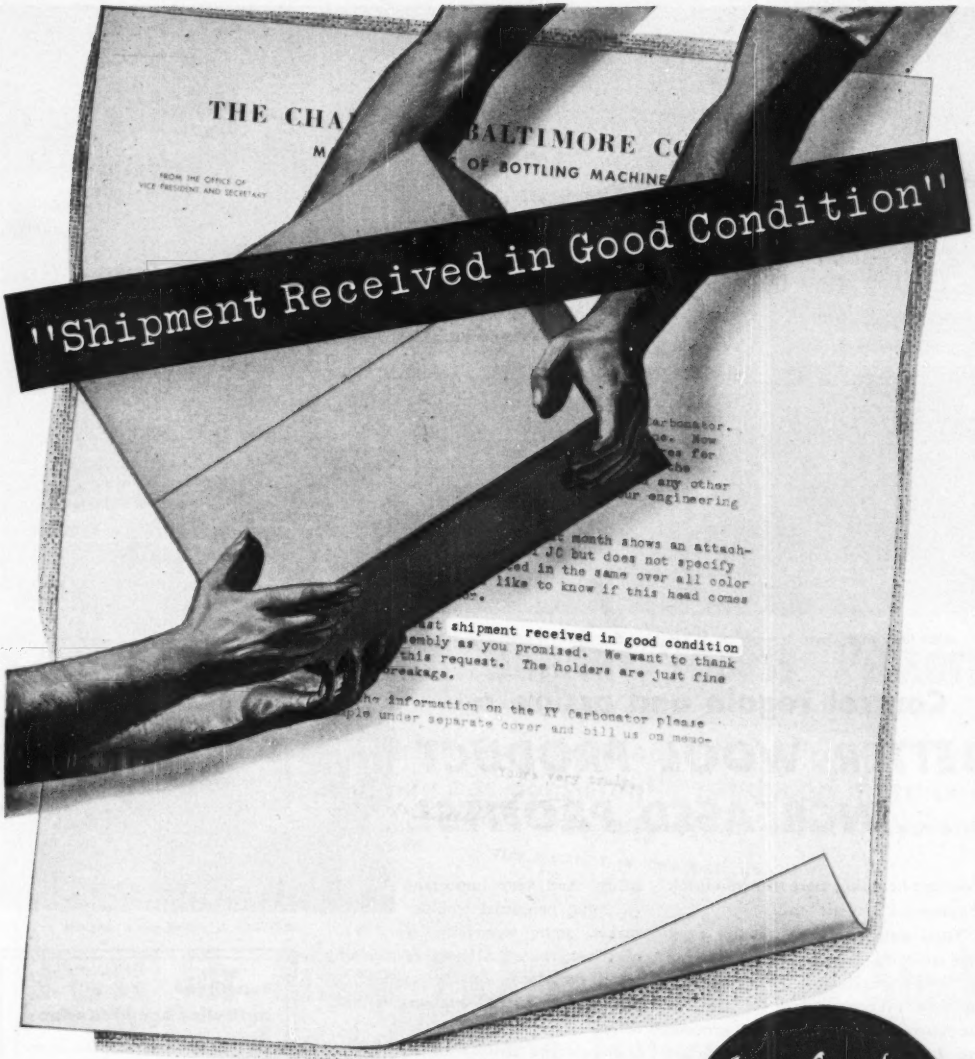
March-April 1951

WINDING AND TWISTING MACHINERY FOR NATURAL AND SYNTHETIC YARNS

UNIVERSAL WINDING COMPANY

Universal Division

PROVIDENCE BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA CHICAGO LOS ANGELES MONTREAL and HAMILTON



That's the pay-off line in this letter — the good relations builder! *"Shipment received in good condition."* When your product is packaged in Gaylord boxes — you know your product is better *protected* — All the Way!

For years Gaylord boxes have been protecting the products of many of the country's leading manufacturers.

Gaylord Boxes

GAYLORD CONTAINER CORPORATION, General Offices: **ST. LOUIS**

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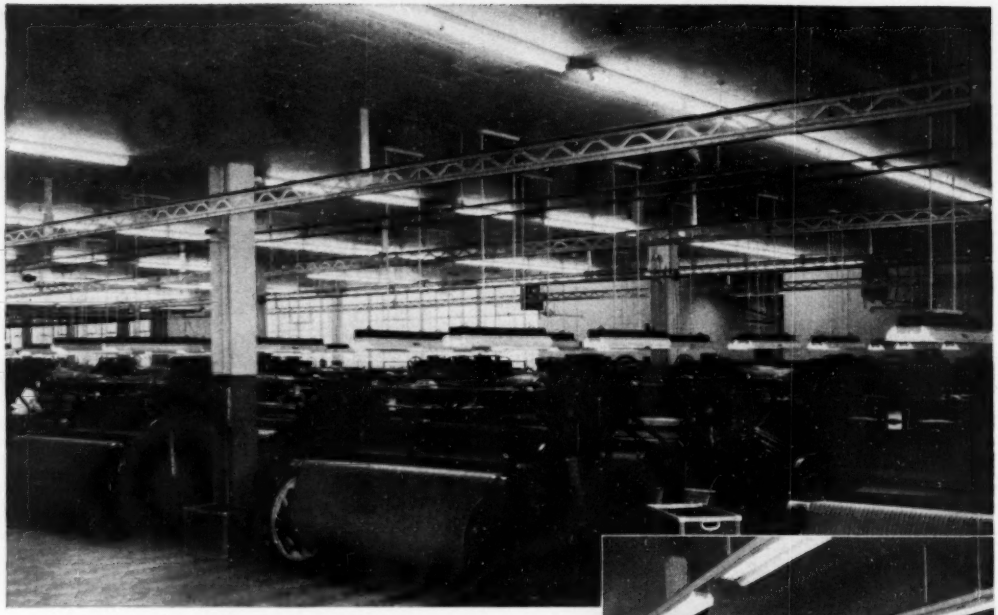


AMCO Humidification System in weave room of Broad Brook Company, Broad Brook, Conn.

AMCO system in spinning room of same mill

Control regain and assure a *BETTER WOOL PRODUCT ...INCREASED PROFITS!*

You may be losing more than you think if yours is a "dry-air" mill.

Total weight, after all, is dry wool plus moisture. So when moisture in the air is abnormally low, moisture from the wool evaporates into the air — at the expense of the wool you are processing. Is it any wonder that profits begin to dry up when the air dries out?

AMCO Humidification keeps the air, your biggest single asset, "liquid". It governs surrender of regain; assures better control of weights and yarn counts; reduces fly; improves end products by preserving flexibility, resiliency and pliability. And very important . . . that perennial trouble-maker, static electricity, is effectively routed. All good reasons why it will pay you to consult a trained and experienced AMCO engineer without delay.

Should you already have a modern, efficient humidification system and seek to add *cooling*, AMCO can help you with that job, too. Whether you propose installing a ductless system, a unit duct, or a central station air conditioning system, AMCO can tailor-make an installation to fit your specific needs.

Benefits of controlled humidification

- Elimination of static electricity
- Higher yarn yields
- Less fly waste
- Oil savings through decrease in employed emulsions
- Greater spinning, dressing and weaving efficiency due to retention of moisture in yarn
- More flexibility, resiliency and pliability of yarn
- Better control of cloth weights.

Amco Self-Cleaning Atomizer

AMCO
HUMIDIFICATION AND COOLING

AMERICAN MOISTENING CO., AFFILIATED WITH GRINNELL COMPANY, INC.; PROVIDENCE, R. I. • BOSTON • ATLANTA • CHARLOTTE

Complete Blending, Opening, Cleaning and Picking Systems for Cotton Mills

Opening, Blending and Picking Systems for Synthetic Fibers

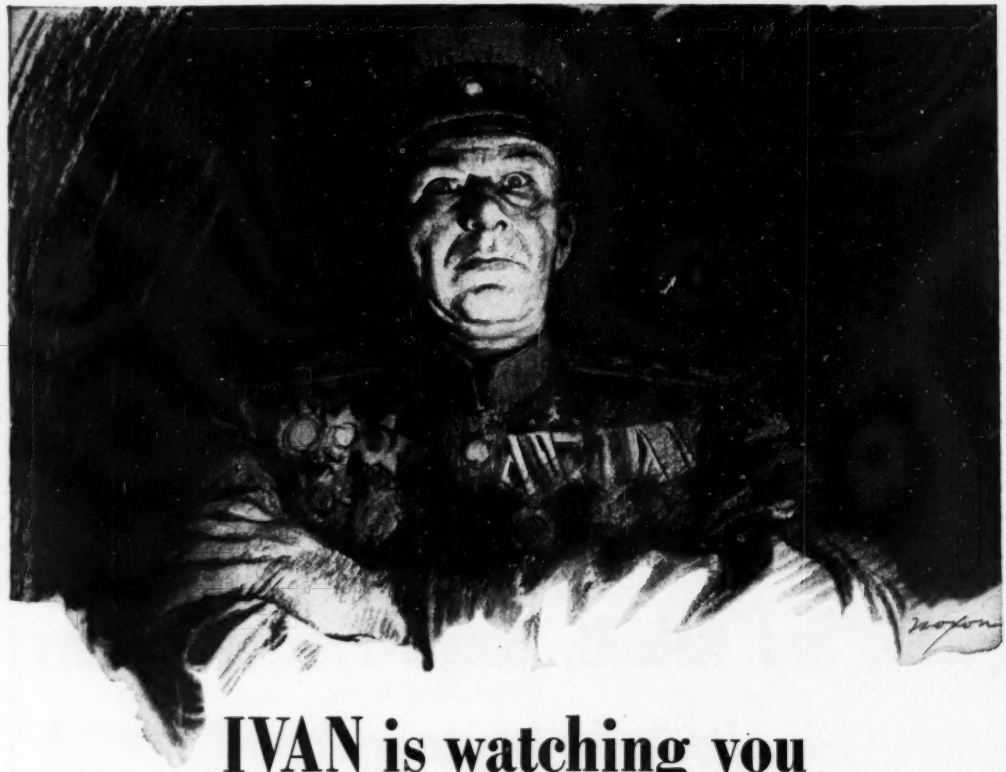
New, and Rebuilt, Single-Process Pickers

The Aldrich Synchronized Single Process Picking System has consistently produced more uniform card sliver than any other picking system.

Parts for Kitson Pickers Always in Stock for Immediate Delivery

AldricH MachinE

Greenwood **WorkS** South Carolina



IVAN is watching you

IVAN is a dyed-in-the-wool Communist. There are only 6 million party members like him in all Russia, yet these Communist brass-hats enforce the iron dictatorship of the Kremlin over *200 million* Russians.

He's sold to the hilt on Red ideas. Which means he's out to get *you*. He believes it's either you or him . . . that the world is too small for both.

Ivan is working hard to beat you down. He has a big head start.

Right now he's got you in a bad spot.

Ivan is afraid of only one thing.

He fears your ability to out-produce him in guns, tanks, planes.

Frankly, he doesn't think you value your free system enough to do it . . . to make willingly the sacrifices he has squeezed out of the Russians.

But he's wrong!

Because you and all of us have set out to build more and better weapons—to do it faster all the time.

We must use every bit of know-how and inventive skill we have to improve our machines and methods—to turn out more and more for every hour we work. Only in this way can we become militarily strong.

But we've got to supply essential civilian needs as well. We can't allow needless shortages to take prices skyrocketing and lower the value of our dollar.

Sure, that means sacrifices for everybody. But doing this double job well is the only sure way to stop Ivan in his tracks—and to save the freedoms which are ours and which he has never known.

FREE *. . . this important booklet tells you how our American System Grew Great*

How Americans developed better machines, power and skills to build a great nation . . . Why we have been able to produce constantly more per hour . . . How this has given us the world's highest living standard.

How we can meet today's challenge—Why we must expand our productive capacity . . . supply arms and essential civilian needs, too. Read how this dynamic process works in free booklet, "The Miracle of America," endorsed by representatives of management and labor. Send for your free copy today!

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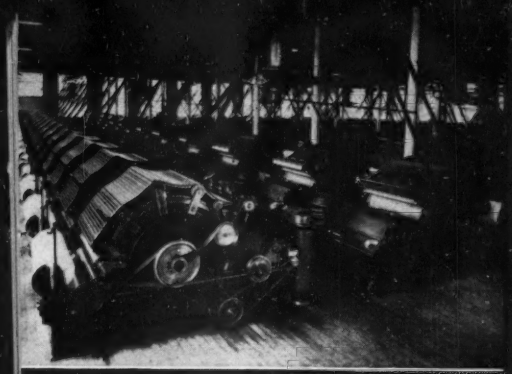
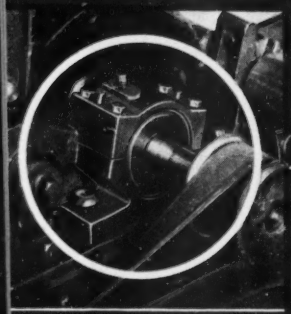
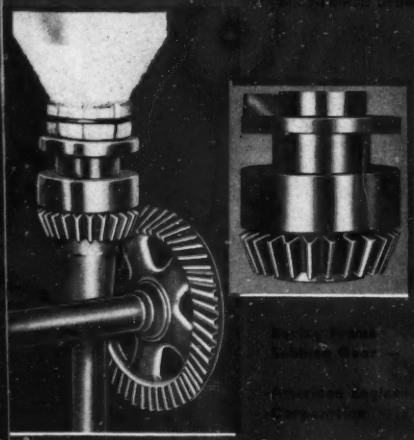
This advertisement, approved by representatives of management, labor and the public, is published in the national interest

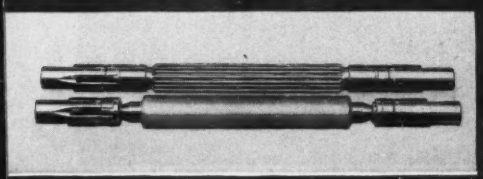
TEXTILE INDUSTRIES

THE BETTER WE PRODUCE
THE STRONGER WE GROW









TURNING POINTS
to greater efficiency in Carding Operations

If manpower shortage is a threat, perhaps the wider use of ball bearing equipment can ease this situation for you. In the modern card room where original settings must be maintained for continuous uniform production on lappers, combers, drawing frames and roving frames, Fafnir Ball Bearing Textile Units are making an important contribution to increased efficiency. For example, a lapper will make a better, firmer lap if the calender racks are fitted with anti-friction rollers. It will make an evener lap if the apron and evener mechanism is equipped with anti-friction bearings.

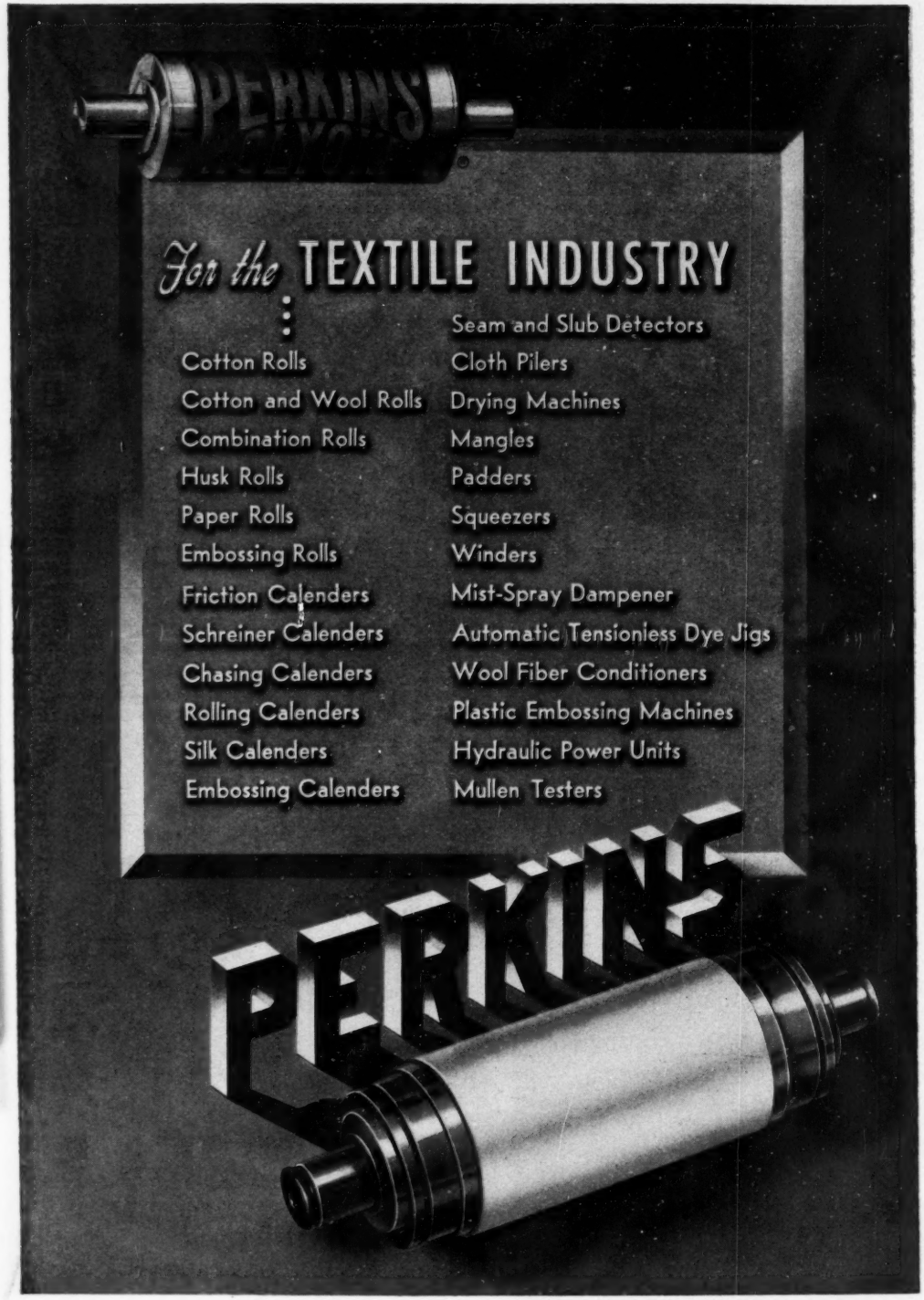
Turn to Fafnir Ball Bearing Units for the answer to how to increase the efficiency of your carding operations. Both standard and special textile units are available for this textile process. Many units feature the famous Fafnir Wide Inner Ring Bearing with self-locking collar . . . easiest of all to install. Write for catalog. The Fafnir Bearing Company, New Britain, Conn.

Other FAFNIR UNITS for Carding

- Licker-in Unit for Whitin Card
- Pillow Block for Roving Frame Bobbin Gear Drive Shaft
- Doffer Unit for Whitin Card
- Hanger Box with Grease Trap for Card and Weave Room Service
- Bearing Unit for Roving Frame Bobbing Gear

FAFNIR
BALL BEARINGS

MOST COMPLETE LINE IN AMERICA


PERKINS
For the TEXTILE INDUSTRY
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Cotton and Wool Rolls
Combination Rolls
Husk Rolls
Paper Rolls
Embossing Rolls
Friction Calenders
Schreiner Calenders
Chasing Calenders
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Silk Calenders
Embossing Calenders
Seam and Slub Detectors
Cloth Pilers
Drying Machines
Mangles
Padders
Squeezers
Winders
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Mullen Testers
PERKINS

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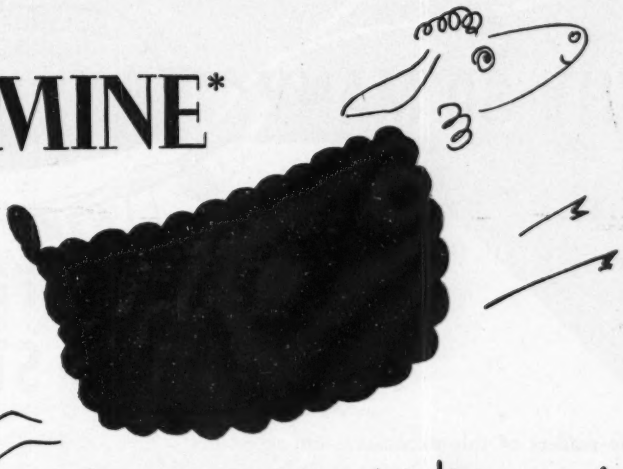

Up go profits! when your woolens go to market and don't come back...

Complaints cost money, whether by converter or consumer! That's why it is profitable to use ANTHOMINE for dyeing wool in any form. You'll get *level shades*, even with "tippy" or blended wool — *increased color yield* — and substantial *reductions in processing time.*

ANTHOMINE has powerful softening properties, leaving the stock, yarn or piece goods with a very desirable hand after dyeing.

Why not PUT ANTHOMINE TO THE TEST? Let us show you how ANTHOMINE can be used to the fullest advantage in your dyehouse. Mail the coupon below.

Arkansas Co., Inc.
P.O. Box 210
Newark, N. J.

Gentlemen:
Please send me, without obligation:

- ☐ Full details of ANTHOMINE'S benefits
- ☐ Application procedure for all wool dyeing processes
- ☐ Representative to arrange for demonstration

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CITY_____ STATE_____

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MANUFACTURERS OF INDUSTRIAL CHEMICALS FOR OVER 45 YEARS
NEWARK, NEW JERSEY

*Patented

WHY SO MANY LURES?

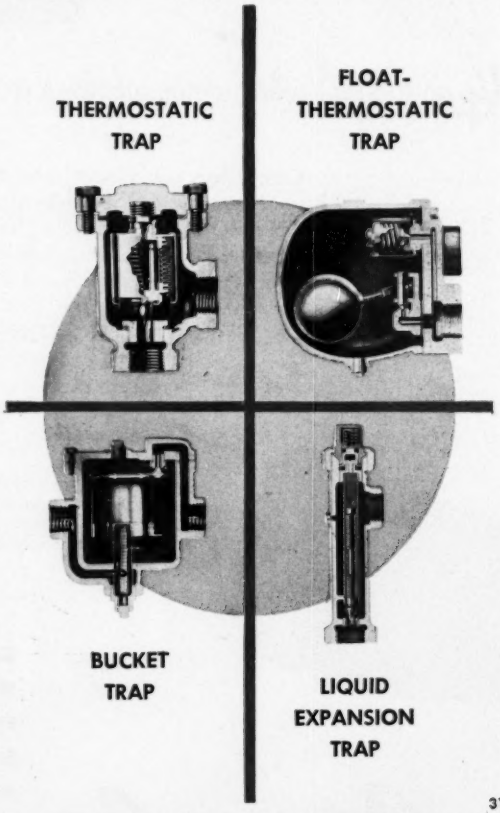
A practical idea for users of STEAM TRAPS

Many readers of this publication can remember when there was only one kind of steam trap and when one trap to a room or a building was enough. As long as the trap "tilted," everybody was happy.

The science of steam trapping has come a long way since then but we still have with us the engineer who tries to "standardize" on one type of trap for the whole plant and the steam man who doesn't realize that the cost of Sarco traps is so reasonable today that it pays to put one on each coil.

One thing is certain. You will need several types of steam traps to lure the utmost out of your fuel and your production equipment. Sarco makes five distinct types of steam traps and is in a position to recommend the right type for each job.

And you can't tell by the cost. An inexpensive type of trap may be the best and the most expensive trap the worst type you could use on any particular job. You can get the right trap the first time for each job by asking the Sarco Specialist near you or writing for our Selection Chart No. 1600.



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SARCO SAVES STEAM

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Empire State Building, New York 1, N. Y.
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IMPROVES PRODUCT QUALITY AND OUTPUT

FROM CIBA RESEARCH...

NEW!

NEOLAN BLUE 3R

A BRIGHTER CLEARER BLUE that brings within the Neolan range many blue shades hitherto requiring acid-shading colors

NEOLAN BLUE 3R not only extends the brightness range but delivers as well all the time-tested advantages characteristic of Neolan Dyestuffs to the dyeing of wool fabrics.

NEOLAN BLUE 3R is extremely level dyeing, and provides exceptional fastness to carbonizing, perspiration and washing.

NEOLAN BLUE 3R is dischargeable to an excellent white . . . of especial interest for ground shades of printed fabrics.

Samples, and complete data for procedures, are now ready.

CIBA

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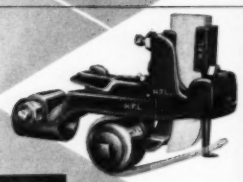
Our Business Is IMPROVING Loom Parts

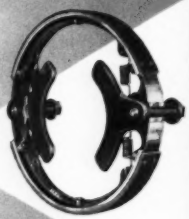


HFL IMPROVED

PARALLEL MOTION FOR COTTON LOOM

HFL IMPROVED

THREAD CUTTER FOR WOOLEN LOOM



HFL IMPROVED

CLUTCH SHOE FOR SILK LOOM

FOR 54 YEARS, more and more Textile Mills have been using HFL IMPROVED LOOM PARTS as the complete answer to their loom part problems.

This is because each HFL Improved Part has been tested, and frequently re-designed by our engineers with one idea in mind: to IMPROVE your loom operation. Through improved design and longer-lasting materials, HFL Improved parts bring uninterrupted economical operation to your loom.

Take the advice of your Boss Weaver when replacement parts are needed. He knows through experience that profitable loom operation and a high quality fabric depend on parts of correct design, and proper material.

Remember, too, that HFL SERVICE is attached to every order.

HFL

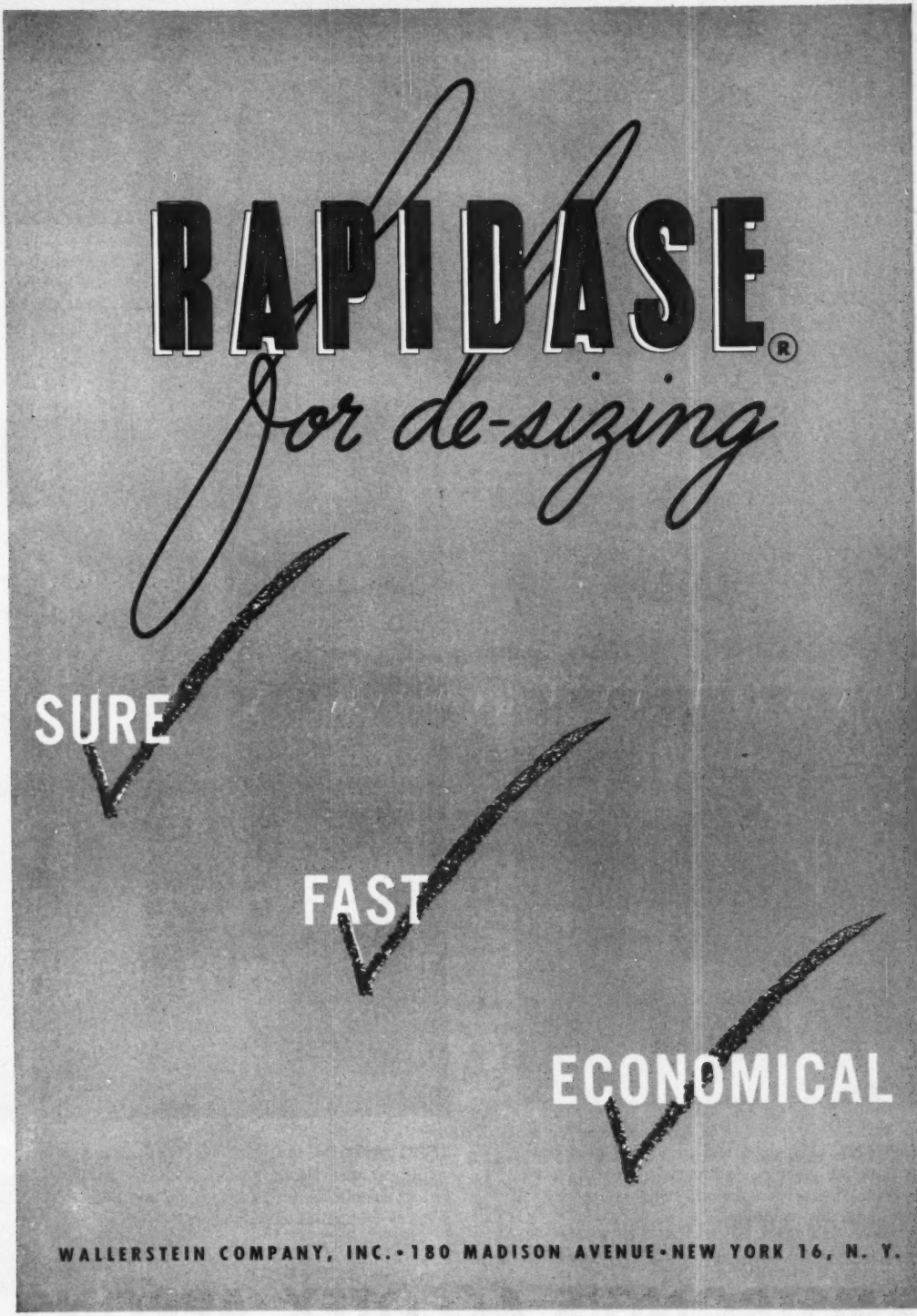
IMPROVED LOOM PARTS

H. F. LIVERMORE CORPORATION

ESTABLISHED 1887

EXECUTIVE OFFICES & PLANT
BOSTON 34, MASS.

SOUTHERN DIVISION
GREENVILLE, S. C.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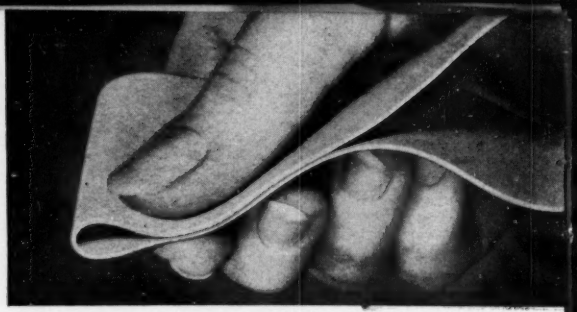
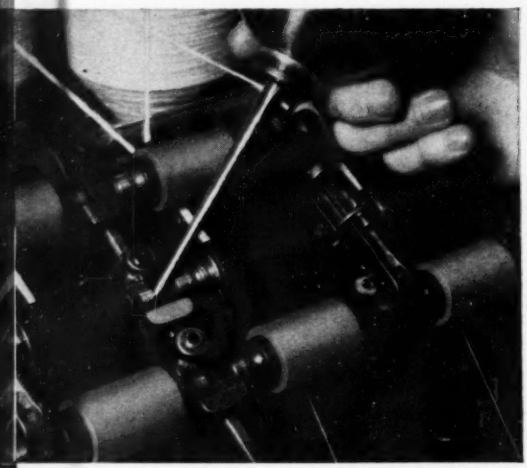
for de-sizing
SURE
FAST
ECONOMICAL
WALLERSTEIN COMPANY, INC. • 180 MADISON AVENUE • NEW YORK 16, N. Y.

NO SEAMS. Look at an Armstrong's Accotex Apron inside and out. A glance shows you it has no seams to crack or break or cause irregularities in the yarn.



SUPER-FLEXIBLE. Armstrong's NO-750 Accotex Aprons have the extra flexibility and wear resistance needed on single apron frames. They run smoothly over the nose bar, always give smooth slip-roll action.

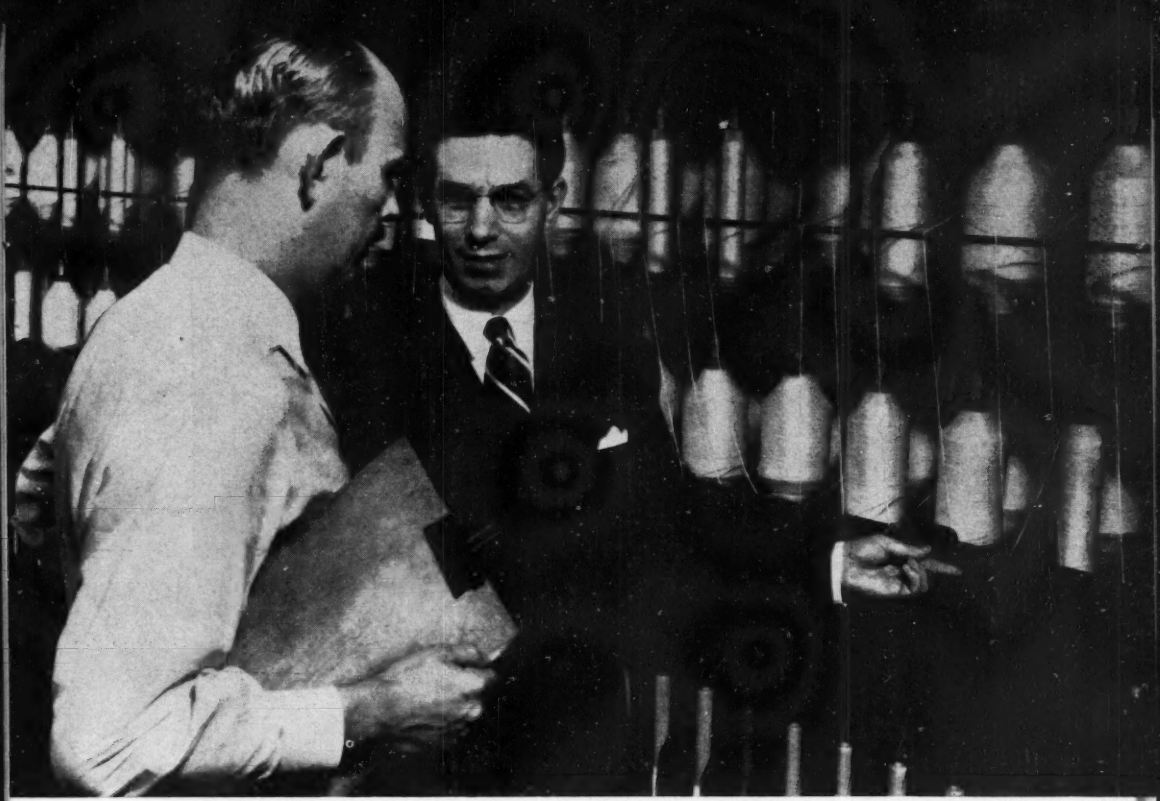
SATIN SMOOTH. Rub your fingers across the surface of an Armstrong's Apron. Smooth, isn't it? And it will stay just as smooth for the life of the apron, assuring you of years of continuous clean running.



OIL RESISTANT. Oils, dyes, and commonly used textile solvents have no effect on Armstrong's Accotex Aprons. They operate efficiently at any mill temperature and will not sweat under any conditions.

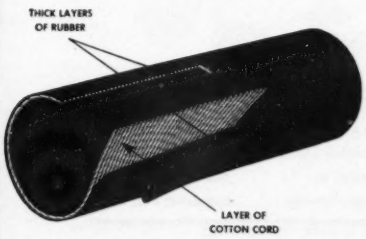
ARMSTRONG'S ACCOTEX APRONS

One of Armstrong's complete line of textile mill supplies



YEARS OF CLEAN RUNNING

from this Armstrong Apron



Here's an apron that under normal conditions will run for years without failure. For example, one well-known Georgia mill ran NO-700 Accotex® Aprons on their Casablanca frames continuously for eight years. At the end of that time, they were still free of cracks and running clean.

Extra resistance to dirt, oil, and solvents is the result of special qualities built into the outer layer of every Armstrong's Accotex Apron. This seamless outer layer is made of specially compounded synthetic rubber with a scuff-resistant surface that will not absorb oil. Thus Accotex Aprons do not tend to pick up waste. They are specially formulated and treated to remain satiny smooth.

The outside layer doesn't do all the job . . . there are two more, each with a special function. The inner layer, also of seamless synthetic rubber, is compounded to resist abrasion. The middle layer is a sturdy cord interliner which prevents stretching or curled edges. Each part contributed to the long life of Accotex Aprons. Vulcanized together, they result in a clean-running, trouble-free apron.

Accotex Aprons are made to fit all long-draft equipment. Call Your Armstrong representative for samples or write to Armstrong Cork Company, Textile Products Department, 3605 Arch Street, Lancaster, Penna. Available for export.

we could promptly deliver all or any of its 487 parts

Naturally it would be more economical to deliver an assembled Platt Card, but our manufacturers are so well established . . . our parts-service departments so strategetically located that we could promptly deliver *any or all* of its parts. When you are purchasing any textile machinery, this availability of parts-service is an important factor. Atkinson, Haserick & Co. has faithfully supplied American mills for over a century.

An American Institution for 128 years

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BUSINESS ESTABLISHED 1823

Textile Machinery Agents and Engineers

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OILITE may relieve your shortage of critical materials

Particularly in mass-production units of small and medium size, Oilite finished machine parts and bearings can be made to your design in a broad range of ferrous and nonferrous metals and alloys, except as limited by government control. Moreover, Oilite products of ferrous base may serve excellently instead of scarce nonferrous units or as replacements for steel and castings.

When you employ Oilite you also obtain the benefits of more than 20 years' engineering, research, and production experience in powder metallurgy, together with the service of field engineers throughout the United States and Canada.

You are invited to contact the field engineer in your district or write the home office regarding the application to your needs of Oilite products.

A Note to Executives

Oilite is an effective replacement, not a mere substitute

In the last decade, more and more executives have become "Oilite minded" because the advantages are many. To meet the current situation, many of our customers have changed their specifications to replace strategic copper and tin with products of iron powder or iron powder alloys. Others are replacing iron castings, steel and aluminum with similar Oilite products.

Also of importance to executives, under conditions of urgency, are the wide adaptability, the speed of delivery, and the economy of cost, time and manpower which result from the use of Oilite finished machine parts, made from metal powders.

Intricate designs, which normally require many different machining operations, can be produced quickly and economically from Oilite. There is great freedom of design and frequently two or more parts can be combined in a single Oilite unit. Oilite eliminates up to 24 machining operations.

Delivered ready for assembly, Oilite parts save the time and investment required to tool up by standard methods. It is not unusual to be in production on a complex Oilite part within a few weeks, as compared to a possible 18-month delivery of machine tools. Trained manpower is thus released for other urgent needs.

Oilite is not a substitute. It is metallurgy's answer to the need for a new material. It may solve your problem.

President

AMPLEX MANUFACTURING COMPANY

Subsidiary of Chrysler Corporation

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Field Engineers and Supply Depots in Principal U. S. and Canadian Cities

OILITE PRODUCTS

Heavy duty, oil-cushioned, self-lubricating bearings and finished machine parts in ferrous and nonferrous metals and alloys. Permanent filters. Friction units. Self-lubricating cored and bar stock.

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PRODUCTS

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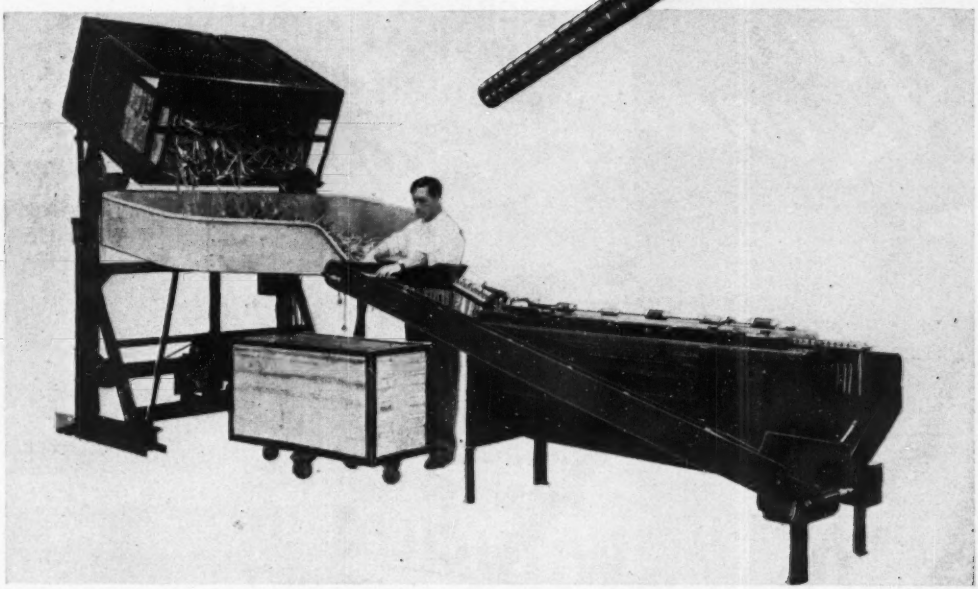
Factoring Service

Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

55 MADISON AVENUE • NEW YORK

HERE'S THE POINT- -

YOU SAVE ON LABOR AND BOBBIN COST



WITH "TYPE L" BOBBIN CLEANING EQUIPMENT

Terrell's fast, efficient Type L machine introduces *a new saving* in modern bobbin cleaning—longer life for bobbins.

Feeler waste is removed by the gentle blowing action of air jets. There's no scraping or scratching. Waste ends are engaged and swiftly unreeled by brushes which never touch the quill. The possibility of damage to quill or quill finish is completely eliminated.

Labor saving advantages of the Type L have been proved in mills throughout the industry—speed 90 to 140 quills per minute—easily, safely operated even by low-skilled employees—quickly adjustable to a wide variety of designs and sizes. Bobbin handling problems of every variety are mastered by Terrell conveying equipment.

Why not talk to a Terrell engineer about your bobbin cleaning problems?

The TERRELL MACHINE CO., *Inc.*

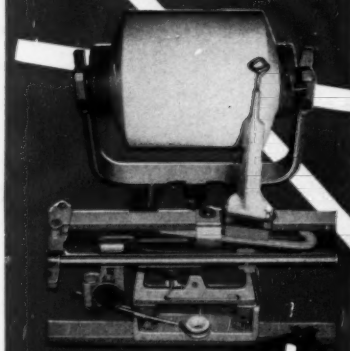
CHARLOTTE, N. C.

It's a PRODUCTION FACT

with the high-speed —HEADLESS PACKAGE— U.S. ACME FACE DRIVE —TWISTER—

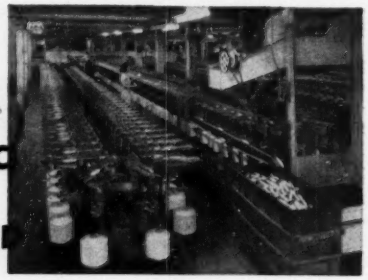
You can

★ INCREASE PRODUCTION!
★ IMPROVE QUALITY!
★ ELIMINATE REDRAWING!
★ PRODUCE 1-lb. to 1½-lb. KNOTLESS PACKAGES!

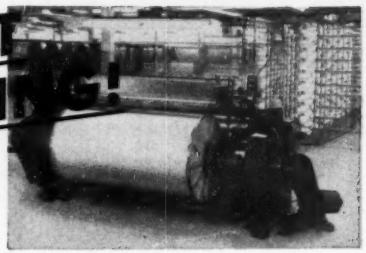


NO FLYER!

DIRECT to AUTOMATIC QUILLING or HIGH SPEED WARPING



WITHOUT REDRAWING!



PRODUCTION HIGHLIGHTS

★ Twist without flyer up to 15,000 R. P. M. with balanced bobbins!

★ Combination yarns, voiles, acetates and nylon up to 35 turns per inch!

★ 178,096 spindles now in production!

Yes, it's a fact—yarn twisted on the U. S. Acme Face Drive Twister goes DIRECT to the quilling or high speed warping operation without redrawing! It's a time and cost saver, a production booster that turns out top quality knotless packages from 1-lb. to 1½-lb. WRITE FOR COMPLETE INFORMATION . . .

U. S. TEXTILE MACHINE CO.
700 GILLIGAN ST.
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SANDOZ PRESENTS *The color achievement of the month*

VIOLET-ever fresh . . . BY PACIFIC MILLS

Here man outdoes nature . . . with a violet shade that holds its freshness.

It's Pacific Mills' "Parma Violet", a spring color that will *stay* spring, keeping this suit of sheer gabardine worsted as continually young as the girl's complexion.

New permanence in violet shades —formerly considered difficult to achieve—results from the use of three patented Sandoz dyestuffs having excellent fastness to sunlight, perspiration and dry cleaning:

ALIZARINE LIGHT VIOLET RCN Pat.
ALIZARINE LIGHT VIOLET 2RC Pat.
BRILLIANT ALIZARINE LIGHT VIOLET FFR Pat.

A delight to the wearer, they are also a favorite of dyers and finishers, too. They are unsurpassed for level-dyeing properties, even in the lightest shades, and retain their full brightness throughout processing.

For *any* chrome, acid or direct dyes . . . or auxiliary chemicals . . . for both natural and synthetic fibres . . . be guided by the successful "color achievements" you see in these Sandoz advertisements.

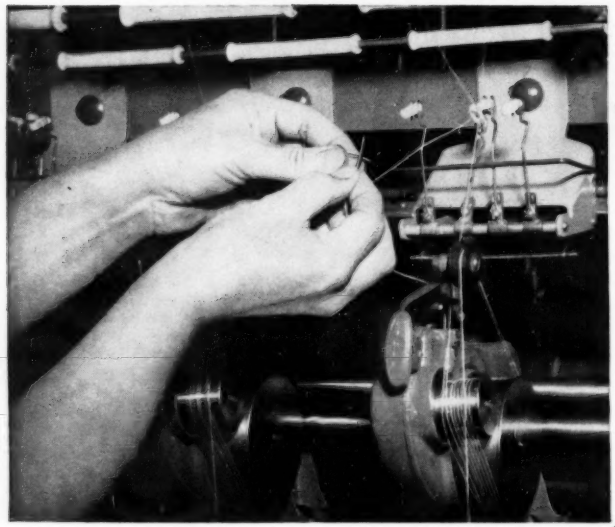
NOW — DIRECT-DYE COTTON AND RAYON THE "TRIPLE-FAST" CUPROFIX WAY!

New Sandoz CUPROFIX colors and after-treatment give cotton and rayon fabrics a high degree of fastness to washing, perspiration and sunlight — comparable to more expensive vat dyeing. CUPROFIX *alone* gives you *triple* fastness in direct dyeing. Write for booklet on CUPROFIX, already adopted by many mills.

SANDOZ CHEMICAL WORKS, INC., 61 VAN DAM STREET, NEW YORK 13, N. Y.

Application laboratories and stocks at Boston, Philadelphia, Charlotte, Chicago, Los Angeles, Toronto • Other branches at Providence, Paterson and Montreal

SAND *thinks ahead with textiles* S

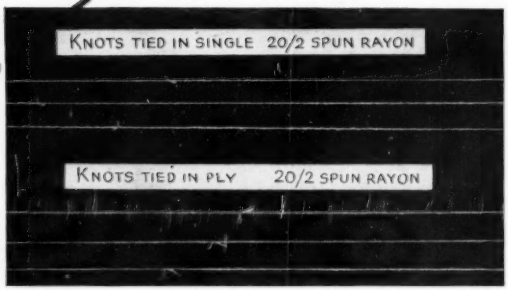


Tying knots HERE

Individual automatic stopping mechanism for each end in the ply improves quality of yarn on Atwood Model 10 Ring Twisters—cotton, worsted, spun rayon, nylon, blends, etc.

Each end passes through a drop wire. When a break or run-out occurs, the wire instantly actuates a mechanism to stop the feed rolls and the spindle . . . so that the knot can be tied in the single end.

This means knots are smaller, therefore less troublesome. Also, *drop ply* can't get into the package . . . and roller laps are prevented, reducing waste.



makes THIS difference in quality

When a break is tied in the single end prior to twisting and the tails are properly clipped, the knot tends to be hidden in the twisted plied yarn. The smaller knot improves appearance, reduces grease and oil pick-up, and makes it easier to pass the yarn through the reed of the loom or the knitting needle.

Knots can be tied in the singles and drop ply can be prevented *only* on machines having an individual stop motion for each end.

UNIVERSAL WINDING COMPANY

ATWOOD DIVISION

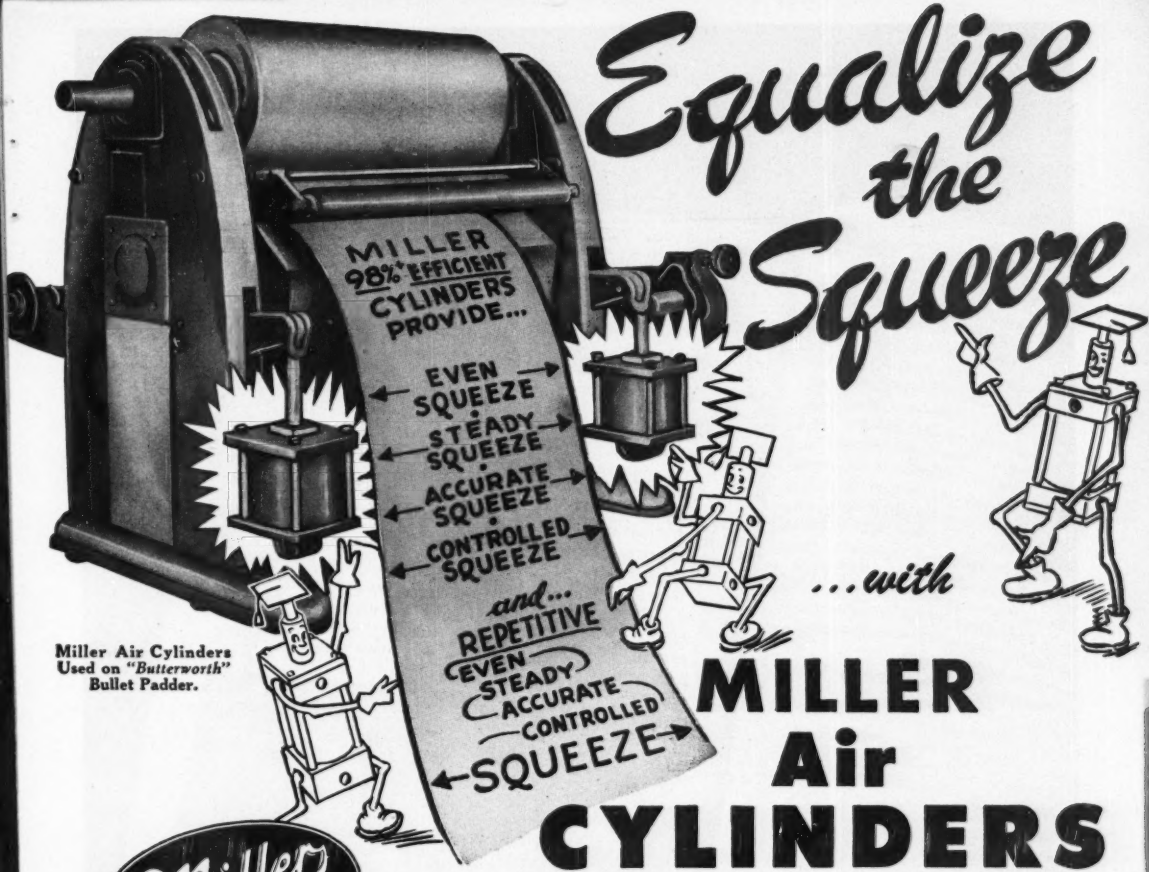
P.O. Box 1605, Providence 1, R. I.

Boston, Philadelphia, Utica, Charlotte, Atlanta, Chicago, Los Angeles; Montreal, Hamilton, Canada; Manchester, England; Paris, France; Basle, Switzerland.

Agents in every principal textile center throughout the world
Winding and Twisting Machinery for Natural and Synthetic Yarns

Model 10 *automatic stop motion for each end and ply*

Equalize the Squeeze



Miller Air Cylinders Used on *"Butterworth"* Bullet Padder.

...with

MILLER Air CYLINDERS

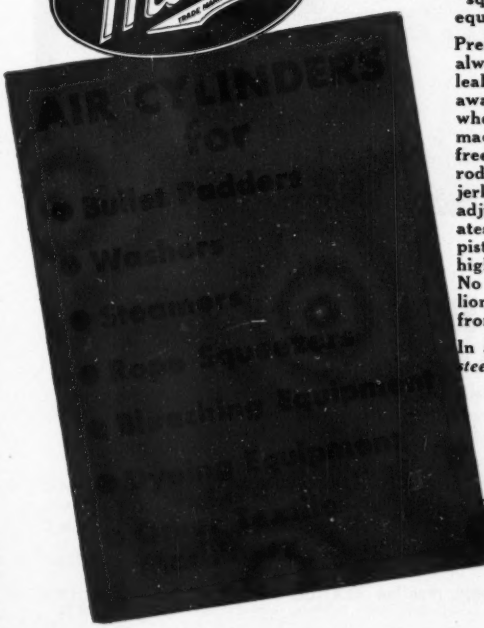
Miller Air Cylinders economically provide the steady, even, repetitive "squeeze" so essential for the pressure rolls of textile machinery and equipment.

Precision-accurate adjustment and repetitive application of pressure to always the exact degree desired are assured by the high-efficiency, leakproof operation of these cylinders and the extremely low "break-away" pressures required to obtain smooth piston movement. Even when the operating plant air pressure is again applied after days of machine inactivity, piston movement is instantaneous—smooth- -chatter-free . . . because the Miller *self-regulating, wear-compensating* piston and rod seals *will not "freeze"* to prevent piston movement or to cause jumpy, jerky action. These seals never need adjustment, have no provision for adjustment, therefore *cannot be over-adjusted.* The Miller rod seal operates against the Miller scratch-resistant, rustproof hard chrome plated piston rod; the Miller piston seal operates against the precision-honed, highly polished finish of the Miller rustproof hard brass cylinder barrel. No wonder these seals still give leakproof, efficient service after millions of strokes. No wonder Miller Air Cylinders are completely free from the rust conditions common to ordinary cylinders.

In addition, *dirt wipers* at rod ends keep out all dirt and lint, and *solid steel* heads, caps, and mountings eliminate costly, dangerous breakage.

Write for illustrated cylinder bulletins A-105 and H-104

COMPLETE MILLER CYLINDER LINE INCLUDES: AIR CYLINDERS, 1½" to 20" BORES, 200 PSI OPERATION; LOW PRESSURE HYDRAULIC CYLINDERS, 1½" TO 6" BORES FOR 500 PSI OPERATION, 8" TO 14" BORES FOR 250 PSI; HIGH PRESSURE HYDRAULIC CYLINDERS, 1½" TO 12" BORES, 2000-3000 PSI OPERATION. ALL MOUNTING STYLES AVAILABLE.



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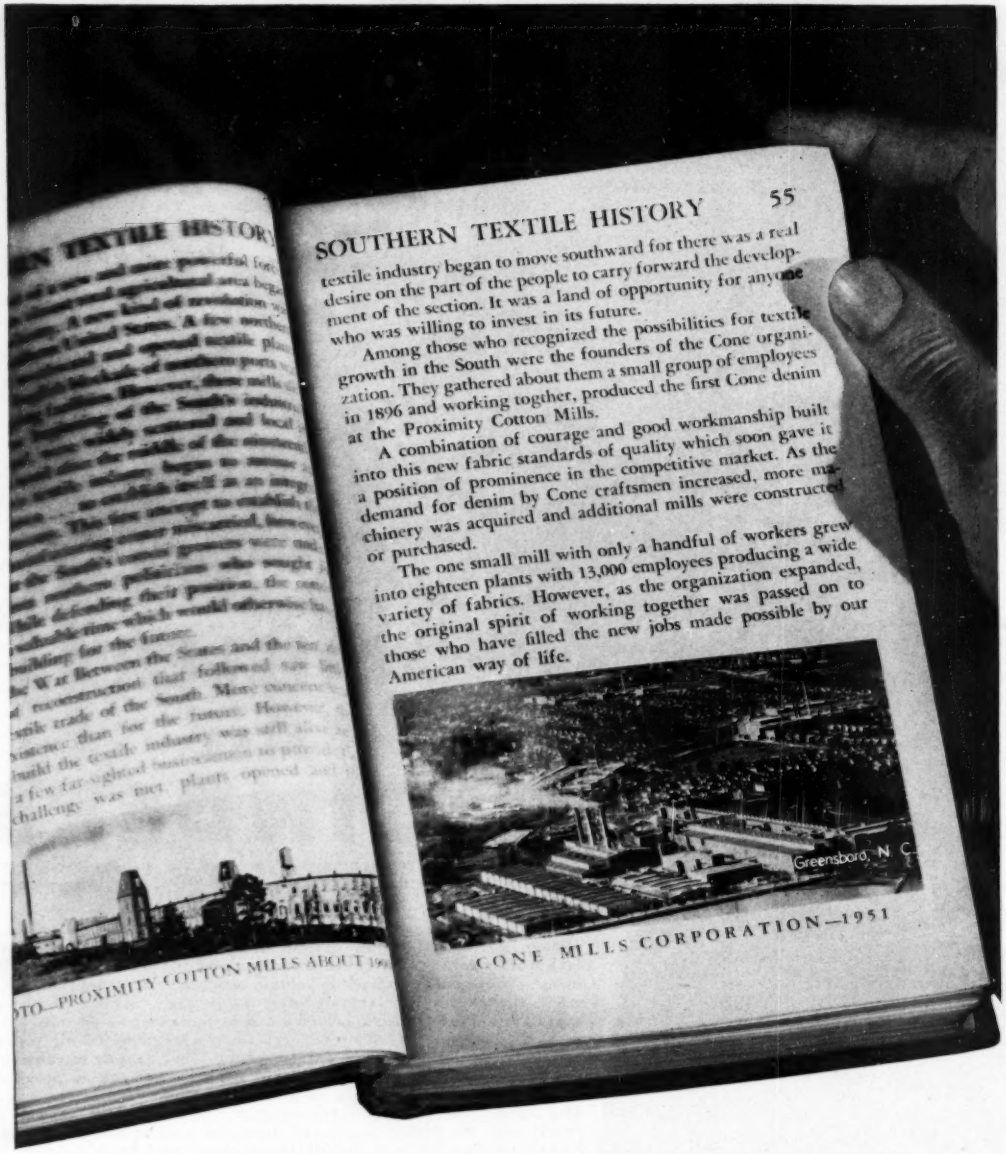
SOUTHERN TEXTILE HISTORY 55
textile industry began to move southward for there was a real desire on the part of the people to carry forward the development of the section. It was a land of opportunity for anyone who was willing to invest in its future.
Among those who recognized the possibilities for textile growth in the South were the founders of the Cone organization. They gathered about them a small group of employees in 1896 and working togther, produced the first Cone denim at the Proximity Cotton Mills.
A combination of courage and good workmanship built into this new fabric standards of quality which soon gave it a position of prominence in the competitive market. As the demand for denim by Cone craftsmen increased, more machinery was acquired and additional mills were constructed or purchased.
The one small mill with only a handful of workers grew into eighteen plants with 13,000 employees producing a wide variety of fabrics. However, as the organization expanded, the original spirit of working together was passed on to those who have filled the new jobs made possible by our American way of life.
Greensboro, N. C.
CONE MILLS CORPORATION—1951

CONE MILLS CORPORATION

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DU PONT CONTINUOUS PEROXIDE BLEACHING SYSTEMS

for

efficient, economical KNIT GOODS BLEACHING

These installations now producing over 60,000 pounds per day!

POTTSVILLE

Bleaching and Dyeing Co.
Port Carbon, Pa.

Installed.....July, 1948
Capacity.....3,000 lbs./hr.
Goods Processed.....Cotton ribbed knit material and flat knit of all sizes and weights

Processing time cut to less than 2 hours . . . Substantial savings in steam, water, and chemicals.

SPRING CITY

Bleach and Dye Works
Spring City, Pa.

Installed.....July, 1947
Capacity.....3,000 lbs. per hr.
Goods Processed.....Cotton knit

Bleaching time reduced 90% on light- and medium-weight fabrics . . . All operations easily handled by two men.

LUMBERTON

Bleach and Dye Works
Lumberton, N. C.

Installed.....March, 1948
Capacity.....2,500 lbs. per hr.
Goods Processed.....Cotton knit underwear fabrics

Results satisfactory in every respect . . . Millions of yards processed speedily and economically since installation.

OUTSTANDING RESULTS LIKE THESE are being duplicated everywhere the Du Pont Continuous Peroxide Bleaching System is used. Why not check its excellent possibilities for your plant right now?

FOR MORE INFORMATION

on Du Pont Continuous Peroxide Bleaching Systems, just write: E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Dept., Wilmington, Del.

E. I. du Pont de Nemours & Co. (Inc.)
Electrochemicals Department, Wilmington 98, Del.

Please send me more information about Du Pont Continuous Peroxide Bleaching Systems.

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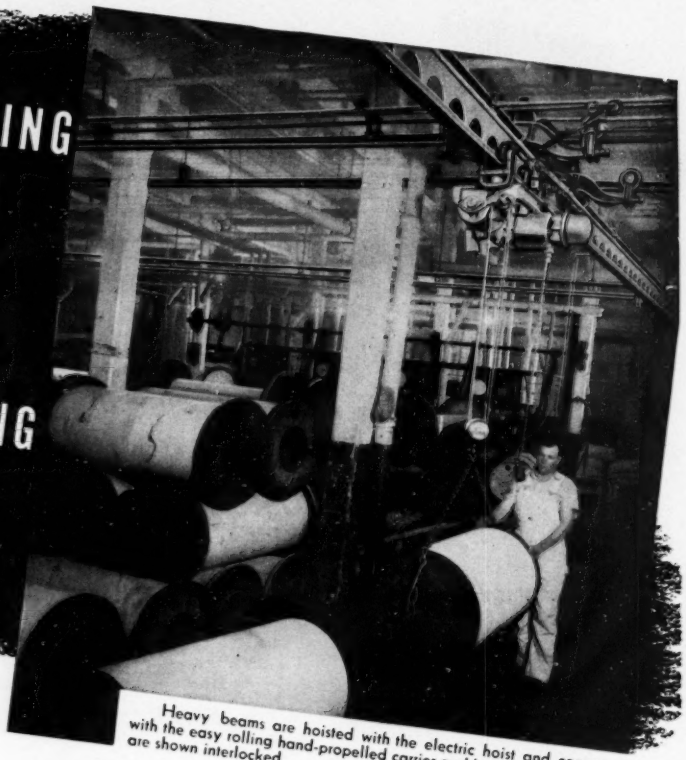
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

INTERLOCKING BRIDGES *Speed* BEAM HANDLING



Heavy beams are hoisted with the electric hoist and conveyed with the easy rolling hand-propelled carrier and bridges. Two bridges are shown interlocked.

SIMPLE, inexpensive, hand-propelled transfer bridges, as illustrated, provide hoisting and conveying service for the entire floor area of the slasher room bays in which they operate. Interlock mechanisms on the ends of the bridges permit locking two or more bridges together so that a carrier with its load can be transferred from one to the other.

Because of ball-bearing wheels and smooth, raised, flat track treads, extremely little effort is required to propel either a bridge or carrier. Cleveland Tramrail equipment has a guaranteed starting effort of 15 lbs. and running effort of 10 lbs. per ton weight.

Cleveland Tramrail has been tried and proven in dozens of textile mills of all kinds and sizes. It is lifting and conveying cotton, wool, rayon, nylon and silk in every stage of preparation wherever the weight is more than one man can handle.

If you are interested in improved efficiency and many other important advantages that are possible with Cleveland Tramrail, you owe it to yourself and to your company to get the facts.

GET THIS BOOK!

BOOKLET No. 2008. Packed with valuable information. Profusely illustrated. Write for free copy.

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THE CLEVELAND CRANE & ENGINEERING CO.
2857 EAST 287TH ST., WICKLIFFE, OHIO

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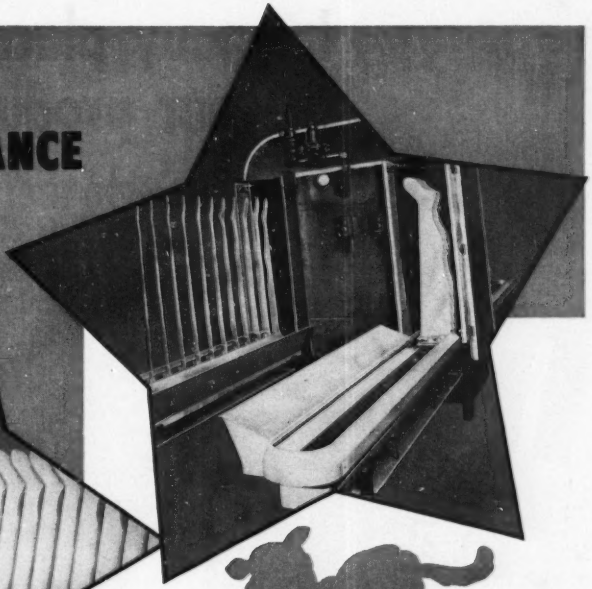
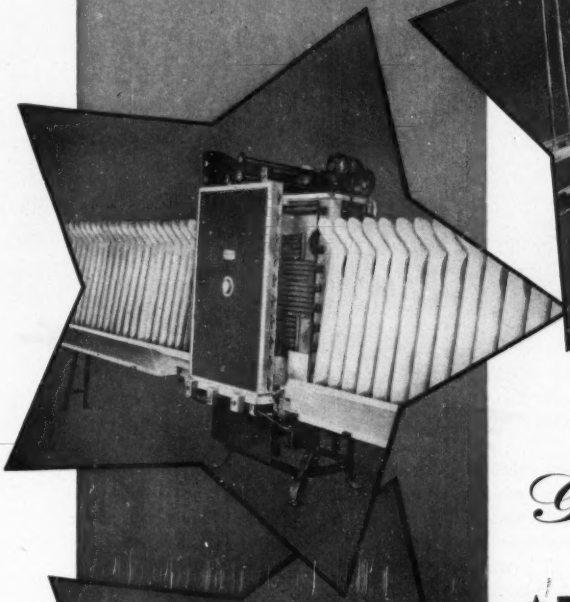
OVERHEAD MATERIALS HANDLING EQUIPMENT

3-STAR PERFORMANCE





Gentle as a Lamb

featuring

★ TURBO FINISH BOARDER

the quick-dry for static-free stockings. Production is 250 dozen pairs in 8 hours with two boarders. And it's gentle as a lamb with your finest nylons.

★ TURBO AD-48

for preboarding, finish boarding or a combination of both. Circulating hot air keeps temperatures steady during boarding. Production is 120 to 130 dozen pairs per 8-hour day. And it's gentle as a lamb with your finest nylons.

★ TURBO CRIMPER

crimps nylon or other synthetic fibres at the rate of 320 feet per minute. It makes crimping a uniform, high-production operation . . . And it's gentle as a lamb in its smooth, continuous operation.

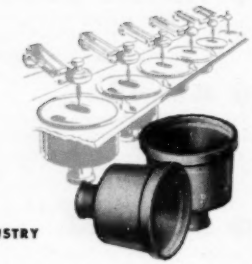
TURBO MACHINE COMPANY : : LANSDALE, PA.
Southern Representative: F. W. Warrington Co., Charlotte, N.C.

Write for these Turbo folders:
- ☐ Finish Boarder
- ☐ AD-48
- ☐ Crimper

TURBO

In many places in your production

micarta is basic!



TEXTILE INDUSTRY

Lap rolls, pirns, picker-sticks, shuttles . . . MICARTA® is handling more and more of these key textile jobs better and longer than either metal or wood. MICARTA is a basic material. It is lighter than aluminum . . . pound for pound this plastic has a compressive strength greater than structural steel. It cannot rust.

MICARTA will not fuse. It kills noise and absorbs vibration. It can be machined, formed or fabricated easier and more economically than metal.

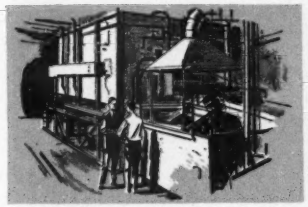
MICARTA is part of the textile future. Explore its possibilities in your plant. Westinghouse Electric Corporation, Micarta Division, Trafford, Pennsylvania. J-06444

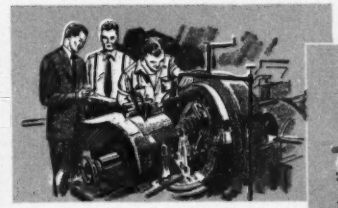
MICARTA is paying its way. As a basic material it can serve the textile industry in rings, separators, guide rollers, spools, bobbins, shuttles, rolls, bearings, inspection forms and tables, pulleys, picker-sticks.

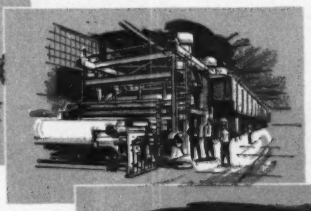
In fact, wherever tough, light and even-wearing parts are a "must" to production, there you will find a place for versatile MICARTA.

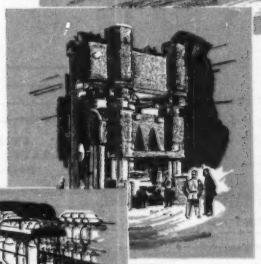
Now! one-source help on every application of petroleum products:

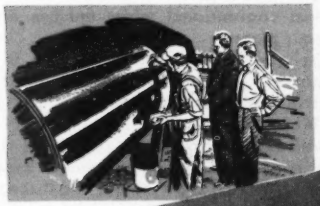
GULF PERIODIC CONSULTATION SERVICE











Now you can get practical help on any problem that involves a petroleum product—any type of petroleum product—from this single source: GULF PERIODIC CONSULTATION SERVICE.

Through this advanced cooperative plan, Gulf makes available to you the regular counsel of one or more trained engineers, men who are skilled in every phase of petroleum science—men who have years of experience with practically every type of process and equipment employed by industry.

This knowledge and experience can be applied profitably to your operating and maintenance problems. Send the coupon below for your copy of the booklet "Gulf Periodic Consultation Service," which describes this cost-saving service. Or contact your nearest Gulf office.

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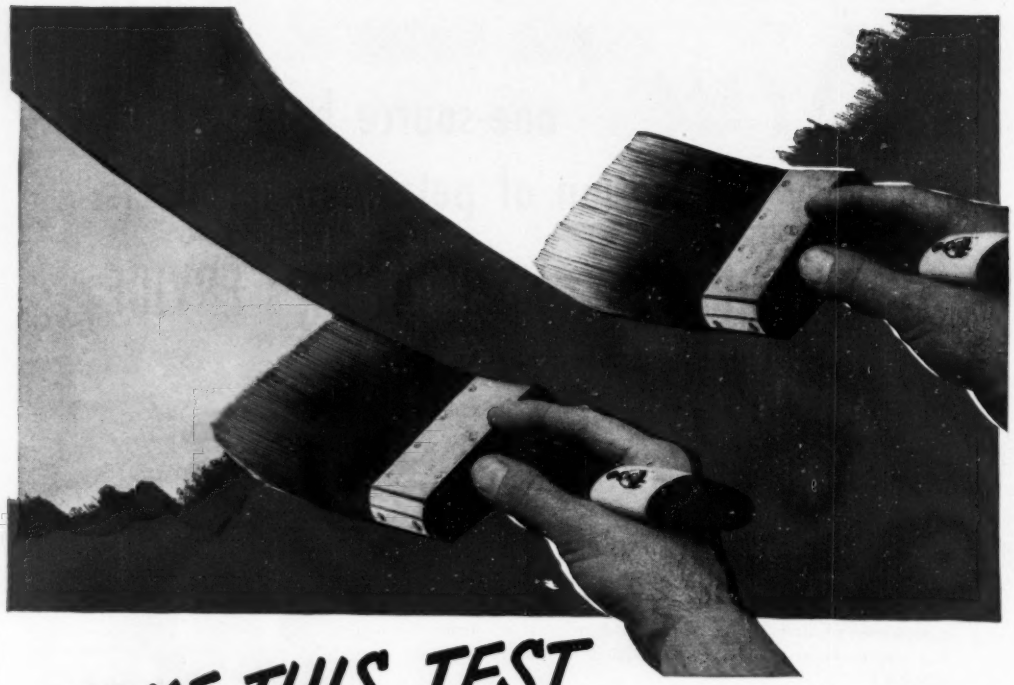
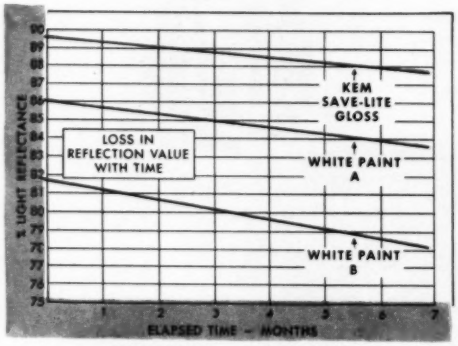


MAKE THIS TEST

before you paint your plant!



STARTS WHITER . . . STAYS WHITER!

Note how the whiteness, or reflective value, of Save-Lite *starts* higher than conventional finishes when first applied, and *continues* higher, as time goes on. This means *longer* intervals before repainting is required.

Compare KEM SAVE-LITE with ordinary whites

SEE why it stays cleaner—longer!

See for yourself the difference there can be in the whiteness of "white" finishes . . . even when they are first applied! Make a side-by-side comparison of KEM SAVE-LITE Mill White against conventional white finishes on any wall surface in your plant.

You can see the difference, from the start, in gleaming, brilliant whiteness . . . a difference because of the *controlled,* light-reflective properties that are designed into SAVE-LITE Mill White Finishes.

KEM SAVE-LITE *starts* whiter . . . KEM SAVE-LITE *stays* whiter, as the actual light reflectometer measurements in the comparative chart show. You'll find these same properties, too, enable it to hide better and cover farther! Call your Sherwin-Williams representative today for a demonstration, or write The Sherwin-Williams Co., Cleveland 1, O. (Division Offices, Charlotte, N. C. and Boston, Mass.)

SHERWIN-WILLIAMS

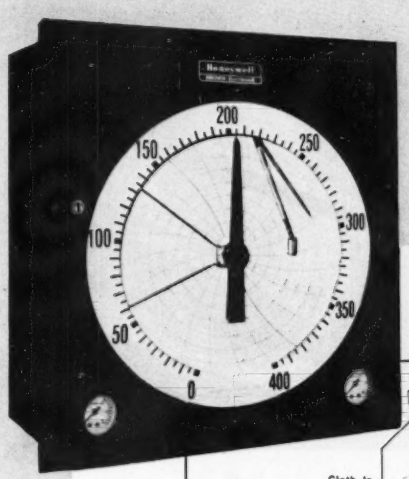
INDUSTRIAL MAINTENANCE FINISHES

SAVE-LITE MILL WHITE • COLOR HARMONY FINISHES
MILL VILLAGE PAINTS

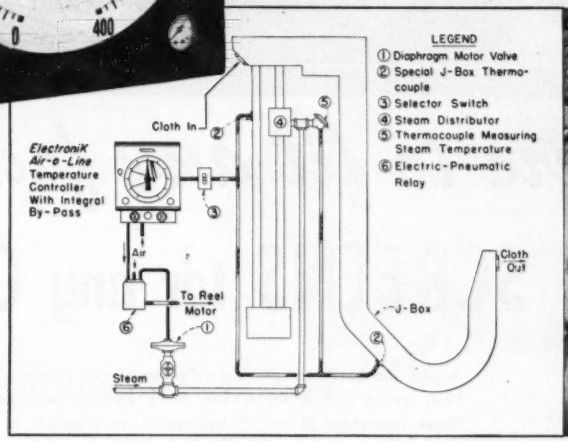
BROWN INSTRUMENTATION IS KEYED TO THE NEED OF EVERY TEXTILE PROCESS

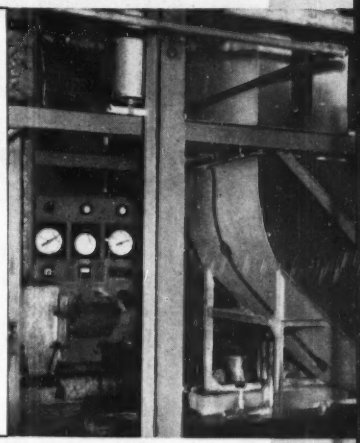
Bleach

CONTINUOUSLY— ECONOMICALLY— UNIFORMLY . . .



. . . with *ElectroniK* Air-O-Line TEMPERATURE CONTROL





Bleach Range Panel at Joseph Bancroft and Sons Co., Inc., Wilmington, Del. ▲

An excellent example of efficient, continuous bleaching operations can be found at the plant of Joseph Bancroft and Sons Co., Inc., at Wilmington, Del.

By the use of an *ElectroniK* Air-O-Line Temperature Controller, installed on one of the first full scale production models of a Du Pont continuous bleach range, the control system has for more than five years made possible better bleaching at higher speeds and lower cost.

The measuring circuit and control functions of the *ElectroniK* instrument are instantly adaptable to J-box requirements . . . whether the box is of Du Pont or Becco design. Available control forms without instrument modification include: direct measurement and control . . . direct measurement and cascade control...direct control from differential temperatures . . . and direct control from averaging temperatures.

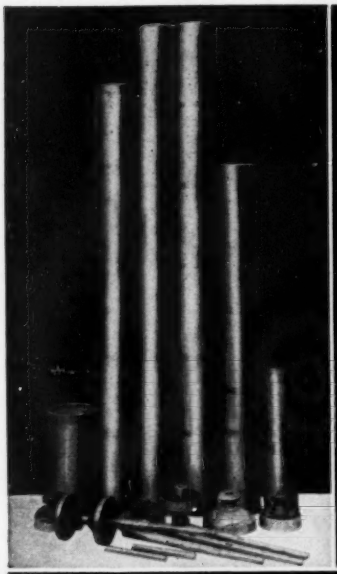
To overcome the limitations of ordinary thermocouples, a specially designed J-box thermocouple is used. Immediate benefits are derived from its super-sensitivity, insertion depth adjustability and splash-proof and stainless steel construction.

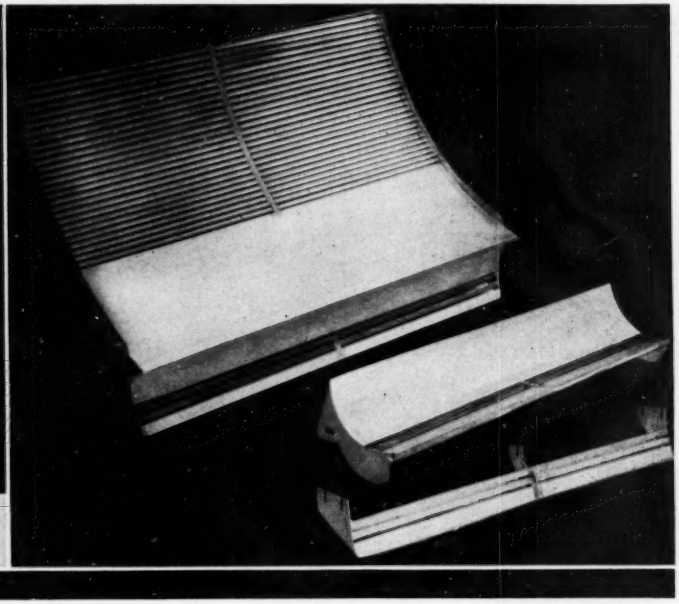
For more detailed information on instrumentation for bleaching operations, write for Data Sheets 8.1-13, 14, 15, 16 and 17, or call your local Honeywell engineer.

Minneapolis-Honeywell Regulator Co., *Industrial Division*, 4492 Wayne Ave., Philadelphia 44, Pa. Offices in more than 80 principal cities of the United States, Canada and throughout the world.

MINNEAPOLIS **Honeywell**

BROWN INSTRUMENTS





Cylinders to fit any frame-

SCREENS for any CARD

SIMS CHECK LIST FOR REPLACEMENT PARTS

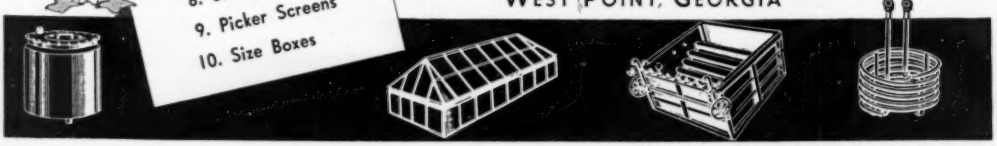
1. Pipe Coils—of every shape, in any metal or alloy
2. Dry Cans
3. Slasher Hoods
4. Rolls — fluted or plain
5. **SPINNING CYLINDERS**
6. **SPINNING CYLINDER HEADS AND ARBORS**
7. **CARD SCREENS**
8. Slasher Cylinders
9. Picker Screens
10. Size Boxes

Rough and battered spinning cylinders cannot produce strong, even yarns. Nor, going further back, will worn card screens produce even laps. These important pieces of equipment, so essential to top grade textile production, are frequently neglected. Sims replacement parts stock includes cylinders, heads and arbors for any make of frame and screens for any type card. Sims is also equipped to repair reusable equipment. For proper sliver deposit, even lap and strong yarns, inspect carding and spinning equipment, then call Sims.

Sims METAL WORKS

WEST POINT, GEORGIA

Get the Sims CHECK LIST habit — check your equipment against the stock replacement parts list at left. It's a money-saving habit.



poor sizing?
weavability?
irregular finishing?

stuck with starch problems?

IT COSTS YOU NOTHING TO HAVE THE ASSISTANCE OF A SKILLED STALEY STARCH TECHNICIAN!

More and more smart textile men are dodging trouble by turning their starch problems over to a Staley Starch expert. AT NO COST TO YOU . . . a Staley technician will help you *improve present methods* . . . show you *new* and *better operational procedures* . . . tell you which in the complete line of superior Staley Starches is best for *your* particular needs. Keep your plant at peak production during these periods of extreme demand. Write for the important facts this very day!

Staley Starches

A. E. STALEY MFG. CO., Decatur, Ill.

Dependable Service from these points:

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Boston, Mass.	Decatur, Ill.	Philadelphia, Pa.
Chicago, Ill.	Durham, N. C.	San Francisco, Cal.
Columbus, Ga.	Greenville, S. C.	Spartanburg, S. C.

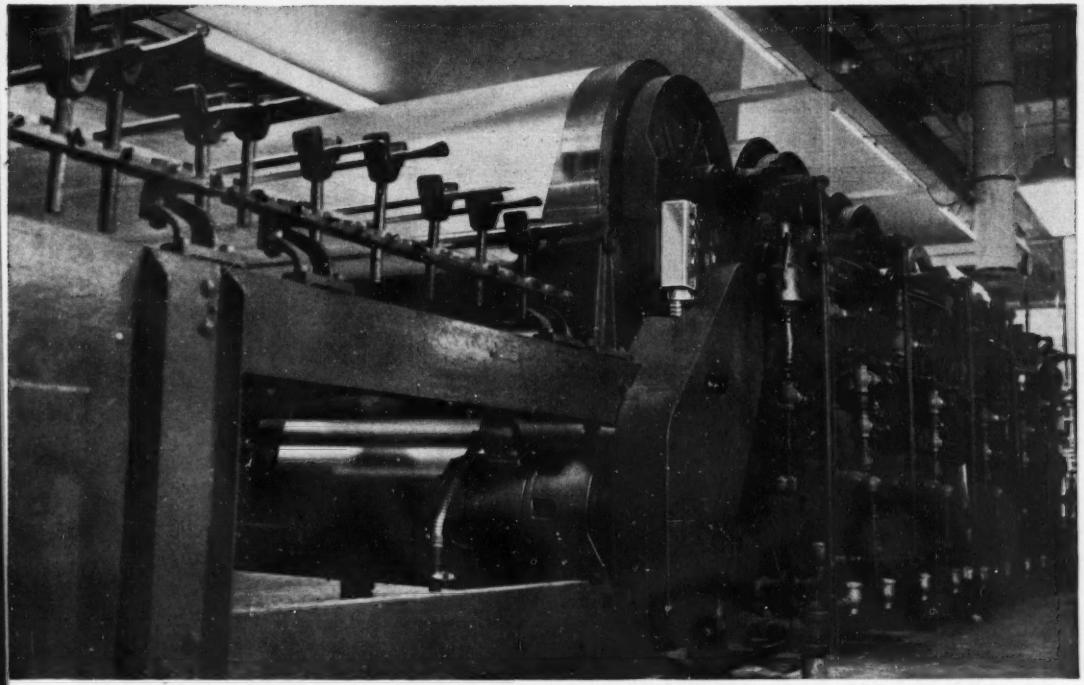
Now—save with a PACKAGED G-E Slasher Drive

Here's all you need!

A packaged G-E slasher drive consists of only (1) any required number of d-c driving motors with their associated rheostats, (2) operator's control stations which can be put wherever is most convenient, and (3) a "package" containing everything else—motor-generator set, exciter, and all control—which can be remotely located to save space around the slasher.

GENERAL ELECTRIC

654-17



G-E amplidyne-controlled 4-motor drive provides operating speed of 12 to 60 yards per minute for this synthetic yarn slasher in the William Skinner and Sons Co. mill in Holyoke, Mass. View from windup end shows one of four G-E 1½-hp gear-motors driving the drying cylinders. Operator can start and stop the drive from the drying section, if necessary, by means of the push-button station shown above motor.

—in first cost, installation, floor space, and maintenance!

All the advantages you've liked in the General Electric multi-motor slasher drive are now also available to you in this new packaged G-E drive that cuts your costs four big ways:

You save on first cost substantially—because mass production of standardized parts reduces unit costs.

You save on installation because the factory-assembled power "package" needs no special foundation, contains all wiring between components except to the remotely-mounted motors and operator's controls.

You save on floor space because motor-generator set, exciter, and all control are housed in one compact unit.

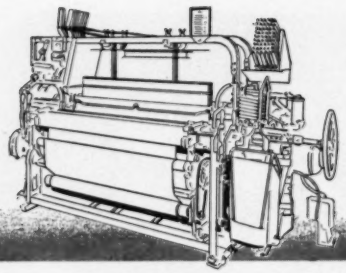
You save on maintenance because all components in the power unit are easily accessible; dust, dirt, and lint are prevented from entering the power unit by large ventilating-air filters.

Both G-E slasher drives—packaged and separate-unit type—use the same performance-tested adjustable-voltage d-c speed control teamed up with amplidyne tension control. Both give you the same **automatically controlled** warp tension for most efficient slasher operation. **The payoff? Uniform high-yardage warps, fewer ends down at the loom, higher weave-room efficiency!**

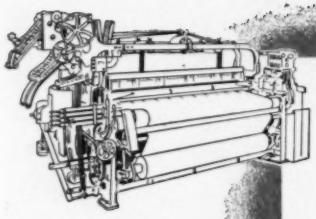
Ask your machinery manufacturer or your G-E textile-mill specialist about all the operating and cost-saving features of packaged G-E slasher drives. Meanwhile, send for Bulletin GEA-5259 on standard G-E slasher drives. **General Electric Company, Schenectady 5, N. Y.**

SLASHER DRIVES FOR TEXTILE MILLS

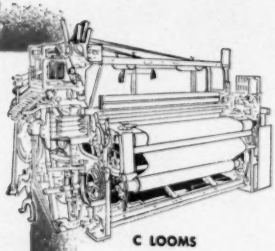
Ask your G-E representative to arrange a showing of "Textiles Unlimited." It's G-E's full-color sound movie on how textile mills are modernizing—a More Power to America presentation.



S LOOMS



W LOOMS



C LOOMS

World's Longest Line of Looms

...built by

This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Woven Fabrics

CROMPTON & KNOWLES LOOM WORKS

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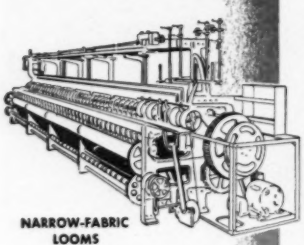
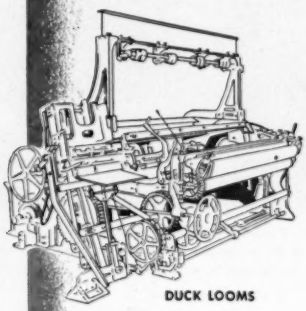
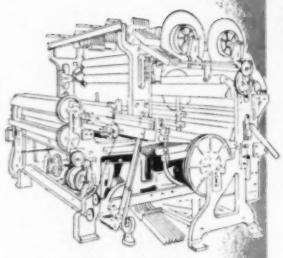


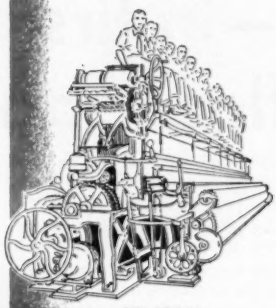
NARROW-FABRIC LOOMS



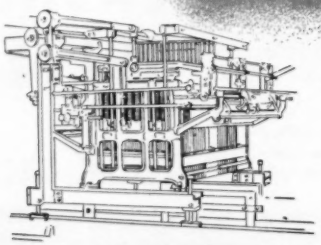
DUCK LOOMS



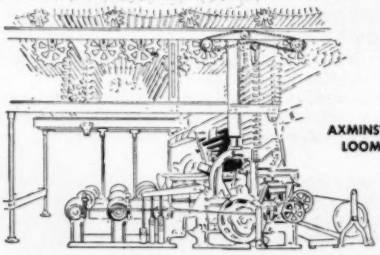
PLUSH LOOMS



FELT LOOMS



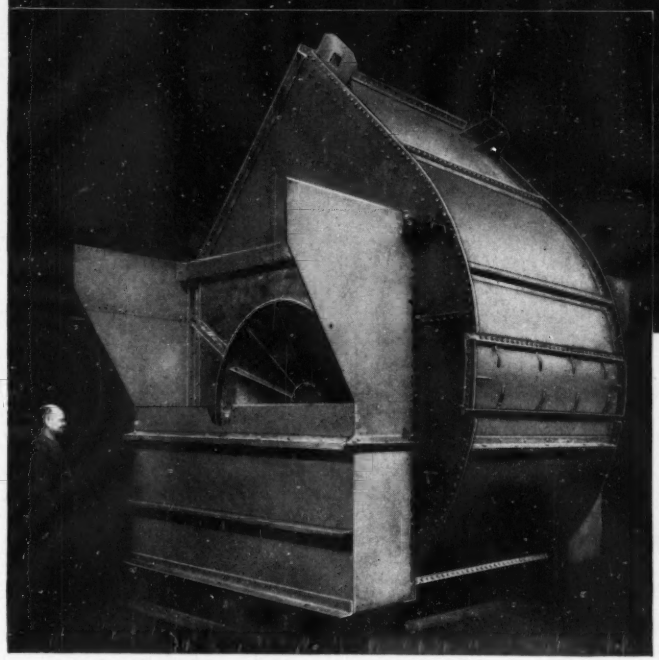
SHEDDING MECHANISMS



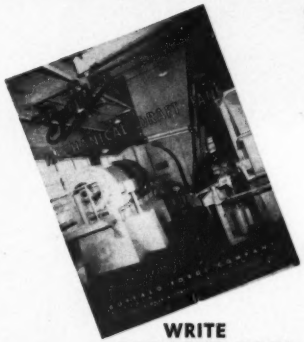
AXMINSTER LOOMS

NO "HOUSING PROBLEM"

with "Buffalo" DRAFT FANS!



- HEAVY PLATE HOUSINGS
- QUICK-LATCHING ACCESS DOORS
- SECTIONAL BOLTED DESIGN
- EFFICIENT INLET VANES



WRITE FOR YOUR COPY OF BULLETIN 3750!

STRENGTH Plus ACCESSIBILITY

Above is a "Buffalo" Induced Draft Fan housing, showing how adequately built it is for industry's toughest fan job.

Heavy plate is used throughout, providing an extremely rigid and durable unit. Bolted sectional scroll construction plus refrigerator-type cleanout and inspection doors reduce maintenance. Scroll liners, which protect the inside of the housing from erosion, are readily replaceable. Erosion is further minimized by the inlet guide vanes shown, which also help the efficiency of the fan by cutting down on inlet box losses. And every other part of "Buffalo" Induced Draft, Forced Draft, Primary Air and other fans, is "up" to the service called for. For dependable draft service (and that's the only economical kind), specify "Buffalo".

"Buffalo" FIRST FOR FANS

BUFFALO FORGE COMPANY

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Canadian Blower & Forge Co., Ltd., Kitchener, Ont. Branch offices in all Principal Cities

VENTILATING FORCED DRAFT | AIR WASHING COOLING | AIR TEMPERING HEATING | INDUCED DRAFT PRESSURE BLOWING | EXHAUSTING

How you save time and money with

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Substitute Pittsburgh Cargotainers for your old-time handling equipment and you'll find they rapidly pay for themselves in man-hours. Cargotainers are designed to move through every mill operation without unloading and reloading. They are easily moved with lift truck or dolly — they stack or fold — and are ruggedly built for either temporary or permanent storage. Cargotainers are open-mesh so that the contents are always easily identified by color and type . . . moreover old tags and other foreign matter drop through without accumulating in the bottom. For complete information on how these patented collapsible welded-wire baskets with eight-way pallet bases can simplify your handling problem, write without obligation to Pittsburgh Steel Products Company, Department TI, Grant Building, Pittsburgh 30, Pa.

CARGOTAINERS by

Pittsburgh Steel Products Company

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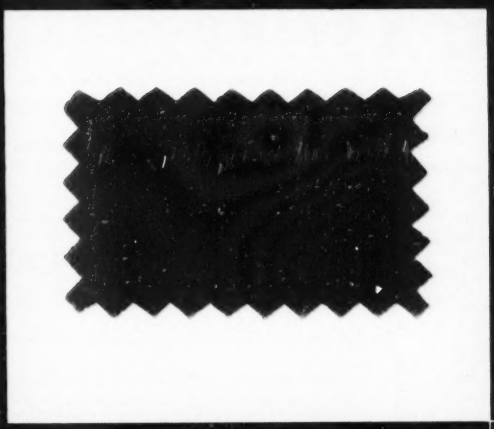
to meet the high fastness-standards of American military specifications and quality civilian markets.

Has so many excellent attributes for dyeing loose wool, (particularly tippy wool), slubbing, yarn and piece goods that every dyer should have a good supply at hand for both military and civilian orders.



Ask for NATIONAL BULLETIN #347 giving complete data, together with dyeings on yarn and piece-goods.

Write, wire or phone the nearest National Aniline office for prompt service on this versatile color.

NATIONAL ANILINE DIVISION

ALLIED CHEMICAL & DYE CORPORATION

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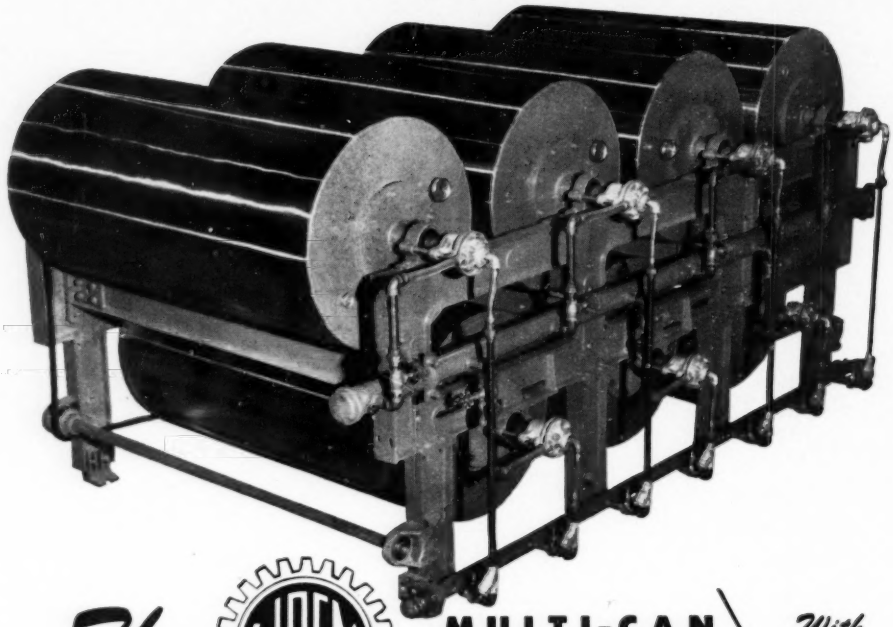


The WPF&M MULTI-CAN SLASHER

With 5, 7, 9, or 11 30" CYLINDERS

The WPF&M Multi-Can Slasher is designed to produce quality warps from fibers suited to this type slasher, at high speed and low operating costs.

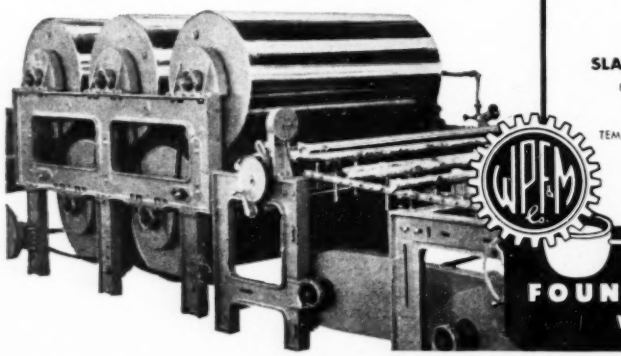
Furnished with either 5, 7, 9 or 11 thirty-inch diameter cylinders, the WPF&M Multi-Can Slasher can be adapted and equipped to fill any mill requirement.

If existing head ends and size boxes are in good condition, they can easily be adapted for use with the Multi-Can cylinder section. Or, the WPF&M Multi-Can Slasher can be furnished complete with any of several types of modern WPF&M head ends, drives and size boxes.

The polished, stainless steel cylinders, with welded-in steel heads, can be operated at pressures up to 35 psig. Rotary packless steam joints and sealed, self-aligning anti-friction bearings provide smooth, trouble-free operation. Each cylinder is equipped with vacuum valve, thermometer, condensate trap and flexible pipe connections. Temperature control can be provided for manifold, group or individual cylinder control.

Roller chain sprocket drive with tension idlers is smooth, quiet running. Either mechanical or electrical type tension control between cylinders and size box, and head end and cylinders are available. Heavy rigid cast iron frames, accurately machined to maintain alignment, support the cylinders.

The WPF&M Multi-Can Slasher is one of the complete line of modern Slashers manufactured by the West Point Foundry & Machine Company—specialist in Slasher Room machinery and equipment.



WPF&M WARP PREPARATION MACHINERY

STANDARD 2 and 3 CYLINDER SLASHERS
MULTI-CAN SLASHERS
WPF&M HI-SPEED 4 CYLINDER SLASHERS
CALLAWAY SAMPLE SLASHER

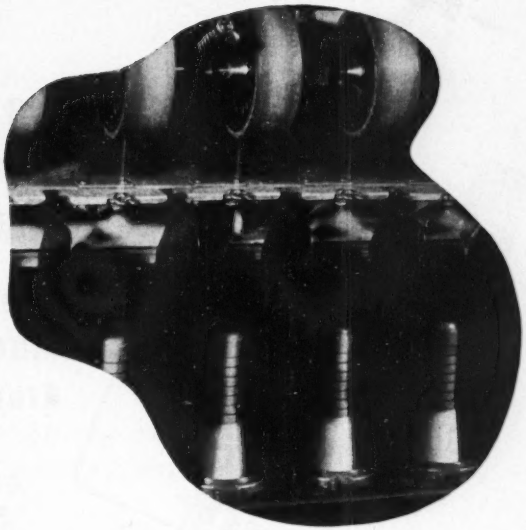
SLASHER MODERNIZATION EQUIPMENT

HI-SPEED HEAD ENDS WITH STRETCH CONTROL
STANDARD WPF&M HEAD ENDS
MULTI-MOTOR DRIVES and CONTROLS
TEMPERATURE, SPEED and TENSION CONTROL DEVICES
HI-SPEED SIZE BOXES
MODEL 50 SIZE BOXES
STANDARD SIZE BOXES
SIZE KETTLES and EQUIPMENT

WEST POINT FOUNDRY & MACHINE CO.
WEST POINT, GEORGIA

Now use SYTON with blends

Syton Produces Greater Yarn Strength In Wool Blends



You've already found Syton, Monsanto's silica dispersion, a profit-booster in woolen and worsted spinning . . .

Now . . . mill trials prove Syton just as advantageous with blends. Smooth rayon staple behaves more like serrated wool fiber when Syton is applied to control inter-fiber slippage. And the proof is in the spinning. Sytonized wool-rayon yarn is 10%-30% stronger; and ends down are fewer—and with Syton you can spin finer counts on all blends, or use *less* twist and get equal yarn strength.

These, and other real advantages, mean *many* production savings all along the line—more profit despite rising costs. You'll want to put Syton to work for you . . . in your plant. So send the handy coupon below for full information.

For full information on Syton*, Sterox 6* for wool scouring, and other Monsanto textile chemicals such as Stymer*, for rayon slashing; Merlon* resins for durable finishes; Resloom*, for washability and wrinkle resistance; Sted*, for cleansing and scouring action; Catalyst AC for curing melamine and urea resin finishes; Dye fixatives; Rezgard*, fugitive-type flame retardant—check and return the coupon.

*Reg. U.S. Pat. Off.

MILL A—55-45 wool-rayon blend. Applied 1.5% Syton to wool stock; then blended before carding. Front roll speed increased from 105 to 139 r.p.m.—resulting in over 30% increase in production.

MILL B—50-50 wool-rayon blend. Applied 2% Syton, 3% oil emulsion. Stock carded well and was spun to 3⅛ run yarn. Tensile strength increased from 75 to 89 lbs.—a gain of 18%.

MILL C—80-20 wool-nylon blend. Applied 2% Syton, 4% oil to wool stock; then blended with nylon. Overseer attributed improved spinning to uniformity of sliver and yarn.

MILL D—50-50 wool-Dynel blend. Applied 1% Syton, 2½% oil (based on weight of wool) to blended stock. Spun to 6 run. Good control of fibers, smooth, uniform yarn noted.

MILL E—50-50 wool-viscose blend. Applied 1½% Syton, 3% oil to wool; then blended with rayon. Mill had used Syton for 18 months on blends, including virgin and darnetted wool, acetate, viscose, and nylon, with consistently good results.

MONSANTO
CHEMICALS — PLASTICS

SERVING INDUSTRY...WHICH SERVES MANKIND

MONSANTO CHEMICAL COMPANY, Textile Chemicals Dept.,
Desk TIT 34, Everett Station, Boston 49, Mass.

Please send me information on: ☐ Syton ☐ Sterox 6 ☐ Stymer ☐ Merlon ☐ Resloom ☐ Sted ☐ Catalyst AC ☐ Dye fixatives ☐ Rezgard

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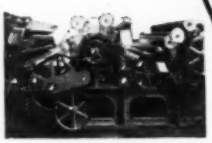
"Take Off THE BRAKES"

SPINDLES SPIN SMOOTHER AT HIGHER SPEEDS

with
SKF
roller bearings

SKF-equipped spindles spin faster, spin better, spin at lower cost—because the friction that gobbles power is kept to the minimum by bearings specially designed and made for the purpose.

SKF Roller Bearings have been contributing to higher spindle efficiency, lower operating costs for more than 25 years. On an average, the use of SKF Bearings reduces power consumption by 15%, permits the use of smaller motors and starting equipment—contributes more uniform twist and greater yarn breaking strength. Ends down are less—oil throwing is eliminated. 7224



Worsted Card

Tenter Machine

One Process Picker

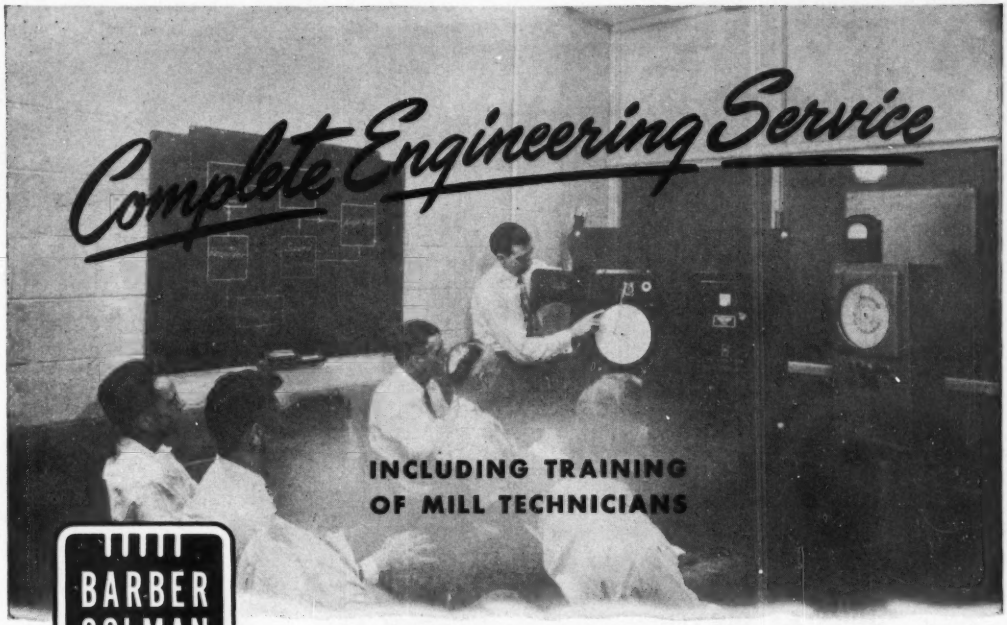
SKF Bearings are making major contributions to the greater efficiency, more economical operation of all types and sizes of textile machinery.

SKF

SKF INDUSTRIES, INC., Phila. 32, Pa.
manufacturers of
SKF *and* HESS-BRIGHT *bearings*

8 REASONS WHY SKF IS PREFERRED BY ALL INDUSTRY

integrity
craftsmanship
metallurgy
tolerance control
surface finish
product uniformity
engineering service
field service



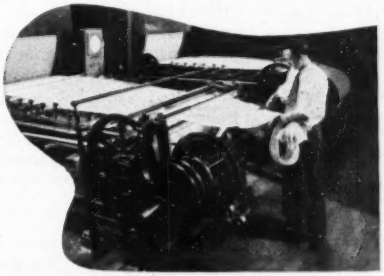
BARBER COLMAN

MOISTURE CONTENT and Complete Slasher Room CONTROLS

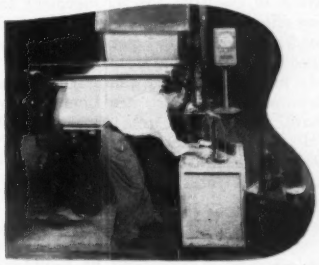
Barber-Colman engineers, who have gained a thorough knowledge of requirements through years of experience, will, at your request and without obligation, make a survey of the control requirements of your slasher room. On delivery of Barber-Colman equipment, factory trained engineers *always* supervise the installation and accurately calibrate the controllers. In addition, training courses for mill technicians are offered at Barber-Colman branch offices to impart a practical working knowledge of the equipment and thus assure its continued efficient operation. Your Barber-Colman representative will show you how to obtain lower costs, greater production, and better products with Barber-Colman Moisture Content and other Complete Slasher Room Controls.

The Barber-Colman *Electronic* Moisture Content *Controller* with pedestal mount.

Barber-Colman installation supervisor takes a *sample* of warp from the slasher.



Using a portable oven and scales, a Barber-Colman installation supervisor makes a moisture content determination for calibration purposes.



BARBER COLMAN

BARBER-COLMAN COMPANY, Rockford, Illinois

Boston, Mass. • Greenville, S. C. • Atlanta, Ga. • Greensboro, N. C.

"I want to see Americans save . . ."

JOHN L. COLLYER
President, The B. F. Goodrich Company

"I want to see Americans save for their own personal security, and I want to see them, as stockholders in our government, urge economy in all phases of our national life in order to provide national security against aggression."

By their rapidly mounting participation in the Payroll Savings Plan, Americans *are* saving for their personal security, fighting the menace of inflation and making a major contribution to America's defense against aggression. In Mr. Collyer's own company 80% of the 38,000 employees throughout the company have already enrolled in the Plan, with two large divisions still to report.

As Chairman of the Ohio Payroll Savings Advisory Committee, Mr. Collyer knows what is being accomplished by leaders of industry, top management and labor in their joint effort to step up the Payroll Savings Plan. A few recent figures should be interesting to those not so familiar with the national picture:

• In the steel industry campaign, Carnegie-Illinois Steel Corporation (now U. S. Steel Company), recently raised its payroll participation from 18% of 100,000 employees to 77% . . . Columbia Steel Company of California went from 7.9% to 85.2% . . . American Bridge Company signed 92.8% of the workers in the large Ambridge plant . . . 87% of Allegheny-Ludlum Steel Corporation's 14,000 employees are now on the Payroll Savings Plan . . . Crucible Steel Company of America, reinstating its plan, signed up 65% of its 14,500 employees.

• In the aviation industry, Hughes Aircraft Company went from 36% to 76%; Boeing Aircraft enrolled 10,000 new names before Christmas.

Some dollars and cents figures? In the last quarter of 1950, sales of $25 E Bonds—the denomination so popular with payroll savers—increased 2.5% by 245,000 bonds more—over the last quarter of 1949.

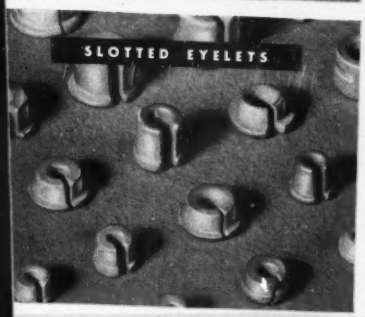
If you do not have The Plan That Protects the personal security of your employees, the national economy and our country's defense, phone, write or wire to U. S. Treasury Department, Savings Bonds Division, Washington Building, Washington, D. C. Your State Director is ready to help you install a Payroll Savings Plan or step-up your employee participation.

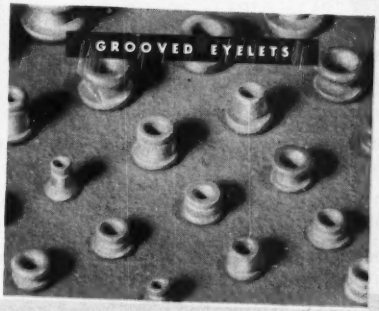
The U. S. Government does not pay for this advertising. The Treasury Department thanks, for their patriotic donation, the Advertising Council and

TEXTILE INDUSTRIES

ALSIMAG® *custom made eyelets*

Easy to Install • Uniform in Size and Material from Lot to Lot • Long Wearing • Lowest in cost, per pound of yarn processed • Smooth • Dimensionally Accurate Hard • Homogeneous (no point of sudden failure)





CUSTOM MADE TO YOUR SPECIFICATIONS IN:

ALSIMAG® 192

Very hard (8 on Mohs' scale), smooth, long wearing, lowest in cost, and considered standard. Ivory color.

ALSIMAG® 193

Identical to AlSiMag 192 except that it is metallic grey in color and is electrically conductive, assists in control of static.

ALSIMAG® 491

Extremely hard (9 on Mohs' scale), mechanically strong (Resistance to Impact, Charpy 7.0 ft. lbs. PSI, Tensile 12,000 PSI, Compressive 100,000 PSI). Light blue in color. Its cost is well justified where excessive wear is experienced or where mat finish must be maintained under severe conditions.

ALL MATERIALS AVAILABLE IN SATIN OR BRIGHT FINISHES.

STRAIGHT EYELETS. The dimensional accuracy of all AlSiMag Guides makes them easier and quicker to install.

TAPERED EYELETS. The taper on the sides makes these easiest to insert in close tolerance holders.

SLOTTED EYELETS. Quick, easy to thread. Practical where yarn runs in one position without "ballooning." Since the wear is concentrated on a small area, the extra long life of AlSiMag Guides is especially advantageous.

GROOVED EYELETS. Usually held by spring clips, not cemented. Especially good design for AlSiMag 193 (electrically conductive) Guides to aid in elimination of static.

***SAMPLES** from our file are sent to you without charge. Samples can be hand made to your specifications at reasonable cost.*

AMERICAN LAVA CORPORATION

50TH YEAR OF CERAMIC LEADERSHIP

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OFFICES: METROPOLITAN AREA: 671 Broad St., Newark, N. J., Mitchell 2-8159 • CHICAGO, 228 North LaSalle St., Central 6-1721
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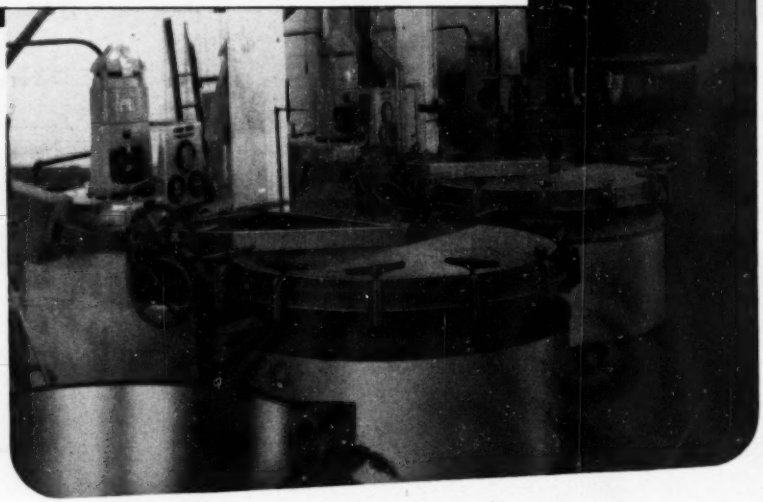
NEW ENGLAND, 38-B Brattle St., Cambridge, Mass., Kirkland 7-4498 • ST. LOUIS, 1123 Washington Ave., Garfield 4939

Dyeing Raw Stock The Modern Way
AT
GLOVERSVILLE KNITTING COMPANY



Gloversville Knitting Co.

Gloversville, N. Y., manufacturer of gloves, mittens and knitted fabrics is one of scores of mills which dye all types of raw stock the modern way — with Fleet Line Stock Dye Kettles.

This machine is truly modern because it's the last word in efficiency, as follows: —

1. Stainless steel throughout.
2. Single unit construction minimizes number of outside pipes, reduces upkeep and circulating friction.
3. Pump, submerged in dye liquor, requires no packing.
4. Vertical motor, on top of machine, is protected from water and is easy of access.
5. Stock, undisturbed during dyeing operation, comes out in original open, lofty condition.
6. Stock unloaded in cheese form in minimum time by means of false bottom, center post and electric or air hoist.
7. Equipped with indicating panel board, containing temperature, pressure and depth gauges.

Let us figure on your stock dyeing requirements

RIGGS AND LOMBARD, INC.

FOOT OF SUFFOLK STREET, LOWELL, MASS.

"The Fleet Line" — A complete line of modern equipment to successfully handle present day wet-finishing, carbonizing and dyeing requirements.

DOMESTIC AGENTS: — Paul A. Merriam, 1491 Broad St., Providence, R. I. • Charles H. Dunker, 1236 South Maple Ave., Los Angeles 15, Calif. • Albert R. Breen, 80 E. Jackson Blvd., Chicago 4, Ill.

EXPORT AGENTS: — Latin America — Bolton States, Egypt, Palestine, India — Mayer, Lyra & Co., 228-299 Fulton St., N. Y., N. Y. • South Africa — Noel P. Hunt, Pty., Ltd., Embassy House, 326 West St., Durban, South Africa • China — G. R. Coleman & Co., Inc., 50 Church St., N. Y., N. Y. • H. E. Mott Co., Ltd., Brantford, Ontario, Canada

SEVEN REASONS WHY

ALKAMERCE

is the ideal Mercerizing Penetrant

1 ALKAMERCE may be dissolved directly in the mercerizing caustic.

2 ALKAMERCE does not lose its wetting power on standing.

3 ALKAMERCE does not form a scum in the caustic.

4 ALKAMERCE is easily washed out of the goods.

5 ALKAMERCE has a low solvent effect on cotton waxes and pectins.

6 ALKAMERCE will not foam or cause sludge formation in caustic recovery systems.

7 ALKAMERCE has a low exhaustion rate, i.e., it is only slightly absorbed by the cotton, thereby permitting larger quantities of cotton to be treated before further additions of penetrant are necessary.

Hartex Products

Rayon Oils & Sizes
Nylon Oils & Sizes
Kier Boiling Oils
Finishing Oils
Synthetic Detergents

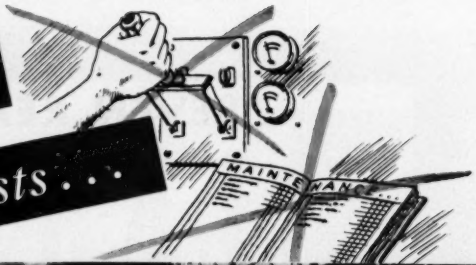
Conditioning Agents
Scrooping Agents
Splashproof Compounds
Delustrants
Leveling Agents

Cationic Softeners
Cotton Warp Dressings
Wetting-Out Agents
Weighting Agents
Mercerizing Penetrants

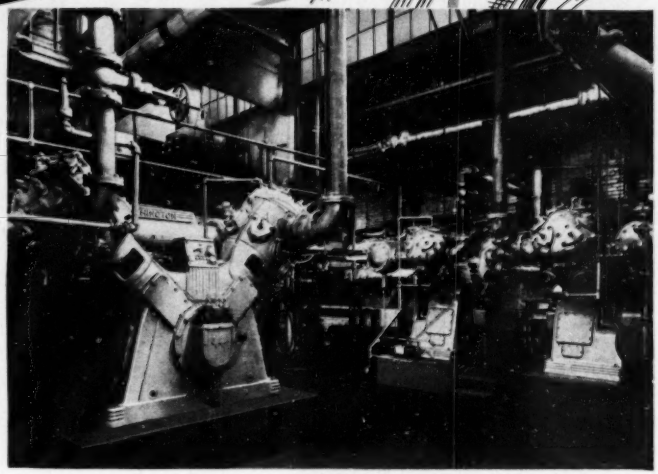
Send for your copy of booklet "Mercerizing and ALKAMERCE – The Ideal Dry Mercerizing Penetrant."

HART PRODUCTS CORP.
[illegible] Broadway, New York 18, N. Y.

No Shutdowns . . .
No Repair Costs . . .



IN 30 MONTHS OF STEADY OPERATION!



Three Worthington YC-2 Compressors on general air service in the Reo Motors Company Plant, Lansing, Michigan. Two of these units ran for 2½ years, the other (a later installation) for 2 years, before all three had their first routine examination. During that time they operated approximately 16 hours per day, 5 days per week, without a single shutdown for maintenance.

Worthington YC-2 Compressors Provide Reo Motors Plant With Trouble-Free, Low-Cost Air Service

Freedom from maintenance worries is just one of the many advantages you get with Worthington YC-2 Compressors. Installation is quick, easy and inexpensive. A YC-2 comes completely assembled — there's no alignment problem and you don't need an erecting engineer. Requiring only half the space and one-quarter the foundation of same-capacity horizontals, it's ready for work as soon as connections are completed — at big savings in time, labor and money.

You get steady savings on operating costs, too, thanks to advanced features like the balanced Y-frame for higher rpm . . . the power-thrifty, instantly responsive 3 and 5-step variable capacity control . . . and Worthington Feather* Valves, most efficient and economical ever made.

GET ALL THE FACTS

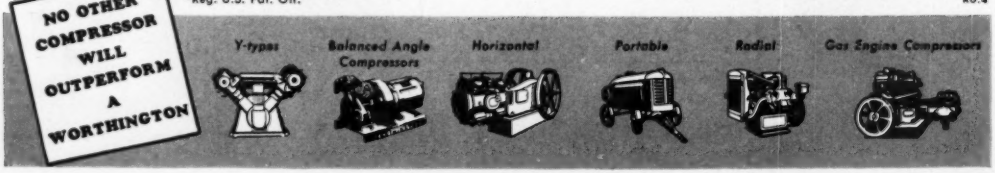
on how YC-2's can cut your air costs — from the first day on! Bulletin L-667-B1A gives you the whole economy story with further proof that *there's more worth in Worthington.* Write to *Worthington Pump and Machinery Corporation, Compressor Division, Buffalo, New York.*

WORTHINGTON

NO OTHER COMPRESSOR WILL OUTPERFORM A WORTHINGTON

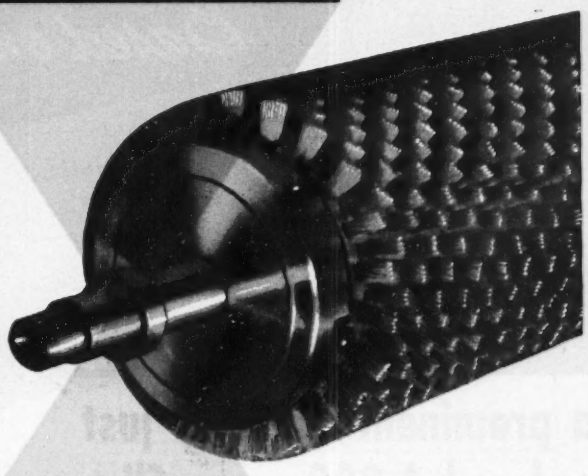
*Reg. U.S. Pat. Off.

KO.4



THE INDESTRUCTIBLE

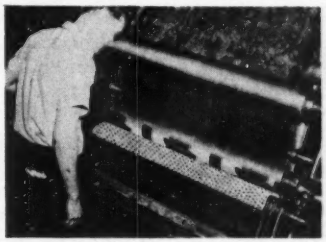
METLKOR®



These textile industry facts are time-tested and proven to cut your costs. Plant operators are finding patented Jenkins' METLKOR—the cylinder brush that *can be rebristled*—lasts *3 to 12 times longer!*

Tuft-set bristles prevent abrasion, won't bleed or absorb dyestuffs. They resist water and solvents. And we'll rebristle them when they finally wear down.

These facts mean increased efficiency and sliced costs—*for you!* There's a METLKOR brush for every textile process. If you have a special brush problem, call on us, or write: M. W. Jenkins' Sons, Inc., Cedar Grove, Essex County, New Jersey.

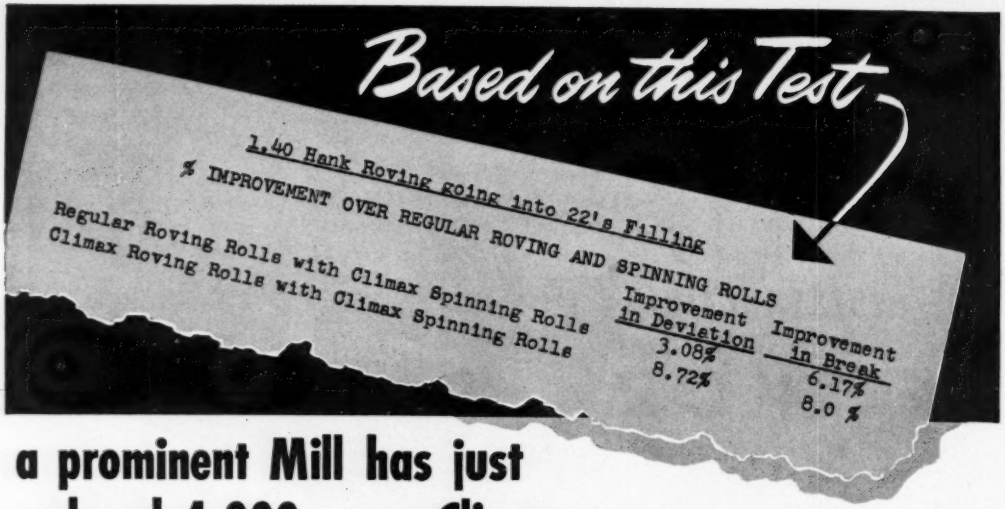


Brushes available in nylon, pure China bristles, fibre, etc., or combinations.

M. W. JENKINS' SONS, INC.

74 YEARS OF INDUSTRIAL BRUSH KNOW-HOW

Cedar Grove, Essex County, New Jersey


Based on this Test
1.40 Hank Roving going into 22's Filling
% IMPROVEMENT OVER REGULAR ROVING AND SPINNING ROLLS
Improvement in Deviation
Improvement in Break
Regular Roving Rolls with Climax Spinning Rolls
3.08%
6.17%
Climax Roving Rolls with Climax Spinning Rolls
8.72%
8.0 %

a prominent Mill has just ordered 4,000 more Climax Rolls, both roving and spinning

CLIMAX

BALL BEARING TOP ROLLS

FOR ROVING
FOR SPINNING

They pay a quick, handsome profit through

BETTER YARN AT LESS COST

Climax Ball Bearing Top Rolls adopted by

Whitin

MACHINE WORKS

and supplied on Whitin machinery as standard where anti-friction rolls are required. Climax Rolls are available through Whitin Machine Works and all of their agents.

MACHINECRAFT, INC.

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***Only* CLIMAX**

among anti-friction rolls, permits INTEGRAL RECOVERING and INTEGRAL BUFFING—WITHOUT DISASSEMBLING.

Climax Ball Bearing Top Rolls are made for

Cotton System Spinning Rolls for all standard and long-draft systems
Cotton System Roving Rolls
American System Worsted Rolls
French and Bradford Worsted Rolls
Wool Spinning Rolls

Climax Rolls are custom-made to suit your equipment and your weighting requirements.

Gentlemen prefer comfort!
THE SIGNALS are rapidly changing for men's wear. The new rules of American living call for clothing that is casual, colorful and comfortable.
And to more and more males that means wearing slacks, sport shirts and leisure jackets more hours of the day at both work and play.
What caused this swing to informality? Many factors are responsible – but you can credit rayon with a big assist. For the popularity of this type of clothing is built on new ideas in fabric construction. Of course, this is where rayon shines! This fiber being man-made can be adapted . . . made to fit special needs.
As a result, textile makers working with Avisco engineers have come up with a wide range of rayon materials distinguished by subtle colors, washability or cleanability, long wear and resistance to perspiration.
You probably own sportswear tailored from rayon right now. And you'll want to check up on the new and even better looking numbers now available. American Viscose Corporation, 350 Fifth Avenue, New York 1, N. Y.
Avisco
AMERICAN VISCOSE CORPORATION
AMERICA'S LARGEST PRODUCER OF RAYON

Avisco ad, appearing recently in *The New Yorker* and *Time Magazine*, dramatizes the contribution of rayon to the growing popularity of sportswear. The advertisement makes the point that good looking rayon fabrics now available have done much to stimulate consumer demand for more informal clothing. Like its predecessors, this Avisco message is designed to keep the public and opinion leaders abreast of developments in rayon—and to stimulate acceptance for rayon products.

RAYON 20 YEARS AGO

NEW YORK, May, 1931 – Cherrybloom Pink, Bamboo Tan, Buddha Blue, Lanternglow Yellow, Pagoda Cream and Oriental Red have been selected as the official colors for the 1931 summer season.

NEW YORK, May, 1931 – A new motion picture entitled "The Quality Control Plan" is being made available to retail stores by The Viscose Company.

BROOKLYN, May, 1931 – The exhibition of decorative art being held here is arousing wide interest. Featured attractions are rayon bedspreads, draperies, and wallcoverings.

MAKE USE OF Avisco® 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

1 FIBER RESEARCH
2 FABRIC DESIGN
3 FABRIC PRODUCTION
4 FABRIC FINISHING

AMERICAN VISCOSE CORPORATION

America's largest producer of rayon

Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.

SYLVANIA® CELLOPHANE

keeps your packaging in the swim!

Overwrap of Sylvania Cellophane MS-1 in the 450 gauge makes a package with maximum sales appeal . . . complete dust protection for organdy curtains.

These are some of the properties that can help your product win sales:

1 SALES APPEAL **2** Dust protection **4** Durability
3 Low cost **5** Transparency

Visit Our Booth at the A.M.A. National Packaging Exposition, Public Auditorium, Atlantic City, April 17-20, 1951.

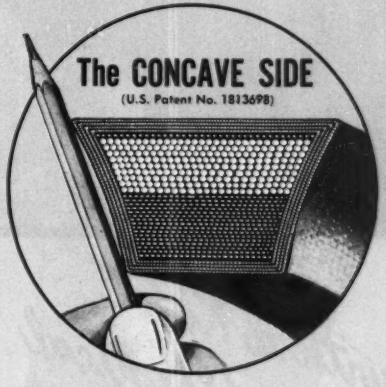
SYLVANIA® CELLOPHANE

Sylvania is always ready to help you with your packaging problems. Discuss them with your Sylvania representative or write us mentioning the specific application in which you are interested. Address: Market Development, Dept. TI-5.

SYLVANIA DIVISION AMERICAN VISCOSE CORPORATION
Manufacturers of cellophane and other cellulose products since 1929
General Sales Office: 1617 Pennsylvania Blvd., Philadelphia 3, Pa.
Plant: Fredericksburg, Va.

Mr. J. C. Hewitt, Master Mechanic of Whitney Manufacturing Company, Whitney, South Carolina, says:—"The first Gates Vulco Rope Drive we put on our weave room lineshaft has now been running 5 years and 9 months and is still going strong. We have naturally used Gates Vulco Ropes for all of the other lineshaft drives."

This test shows how the Concave Side gives you a real saving in V-Belt costs



If you are interested in lower operating costs, make this simple test:—

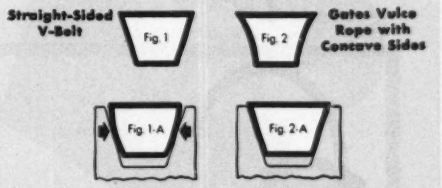
Take *any* V-belt and bend it as it bends in going around a pulley. As the belt bends, grip its sides with your fingers and thumb. You will *feel* the sides of the belt *bulge out!*

This bulging gives a straight-sided V-belt the shape shown in figure 1-A. (See diagrams at right.) Clearly, this shape does not fit the sheave groove. The sides of the bulging belt are forced to press unevenly against the V-pulley—and this concentrates the *wear* along the *middle* of the sides.

But when you bend a V-belt that is built with the *Concave Side*, you find that the sides become perfectly straight—as shown in Figure 2-A. This shape precisely fits the sheave groove.

Because there is *no bulging*, the sides of the Gates Vulco Rope always grip the *full* face of the V-pulley

What Happens When a V-Belt Bends



How Straight-Sided V-Belt Bulges in Sheave-Groove. Sides Press Unevenly Against V-Pulley Causing Extra Wear At Point Shown by Arrows.

The Concave Sides Fill Out to a Precise Fit in the Sheave Groove. No Side Bulge! Sides Press Evenly Against the V-Pulley—Uniform Wear—Longer Life!

evenly and therefore wear *uniformly*—resulting in *longer belt life* and *lower belt costs for you.*

Only V-belts made by Gates are built with concave sides. Whenever you buy V-belts, be sure you get the V-belt with the Concave Sides—The Gates Vulco Rope!

CS-514

Gates
Hose V-Belts
Molded Rubber Goods
for Industry

VULCO ROPE DRIVES
ENGINEERING OFFICES AND JOBBER STOCKS
IN ALL INDUSTRIAL CENTERS

THE GATES RUBBER COMPANY
DENVER, U. S. A.
The World's Largest Makers of V-Belts

with a Kidde Dry Chemical Extinguisher!

Kidde
Kidde Dry Chemical Extinguishers can be used in normal standing position. Just pick up, point the horn, pull the trigger.
Streamlined diffuser horn gives better discharge pattern which provides greater space coverage and more protection for the operator.

SUPPOSE you had to fight a fire . . . wouldn't you prefer the kind of extinguisher which effectively covered 44% more space . . . and at the same time protected you from the heat?

You get exactly that kind of protection from a Kidde Dry Chemical Extinguisher. Factory Mutual Laboratories requires a 20 pound dry chemical extinguisher, in the hands of an experienced operator to effectively cover 25 square feet of burning area. But a Kidde 20 pound unit covered *36 square feet*—44% more! And the Kidde 30 pound unit covered 48 square feet as compared to the 35 square feet required by the test.

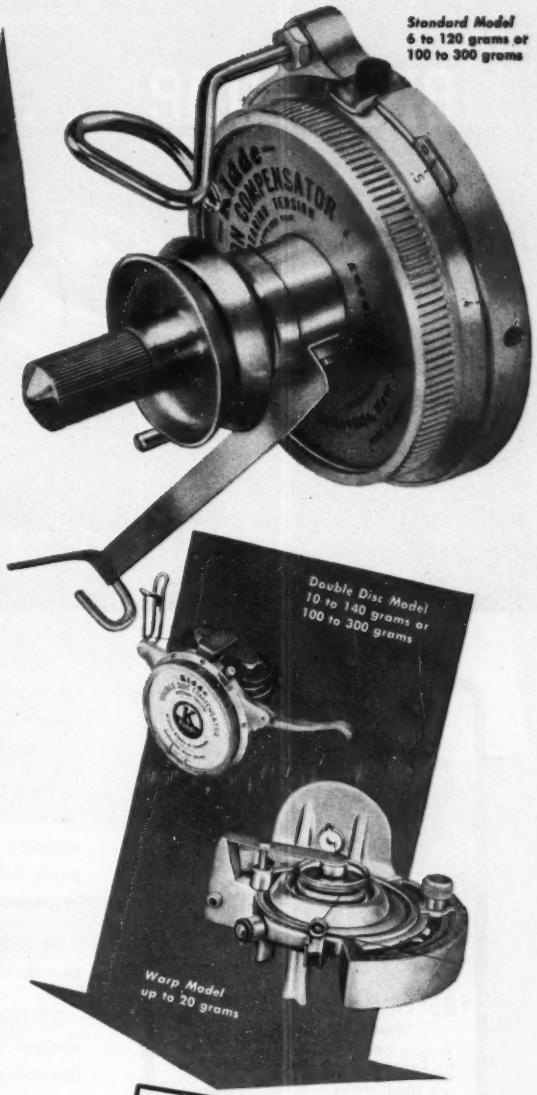
The Kidde Diffuser Horn distributes the dry chemical in a cloud-like pattern which helps eliminate splashing in burning liquids as it smothers the fire. The dry chemical absorbs most of the heat, thus protecting the operator.

Why not let the Kidde "44% margin of safety" help protect your business against fire?

Kidde

Walter Kidde & Company, Inc., 59 Main Street, Belleville 9, N. J.
Walter Kidde & Company of Canada, Ltd., Montreal, P. Q.

OVER 500 MILLS USE THEM!



Lick your Tension Problems with Kidde Compensators!

You can stop worrying about losses from uneven tensions when you use a Kidde Compensator. There are three Kidde models designed to meet varied tension problems. Mills all over the country are now using thousands of them.

The Standard Model is specially designed for *moderate* speeds (approximately 300 yds. per minute) and tensions. Use it in quilling nylons and rayons . . . in warping rubber yarns . . . in winding of narrow fabric bobbins.

The Double Disc Model maintains constant tensions at speeds of approximately 1000 yds. per minute. It is excellent for tender, high twist yarns. Available in two types—10 to 140 grams and 100 to 300 grams.

The Warp Model maintains predetermined tensions uniformly on all warp ends. It produces smooth, level beams, eliminating troublesome slack and tight ends. Lost ends can be controlled by use of an available Kidde stop motion.

Fill in and send the coupon for full information on any or all of these effective Kidde tension compensators.

Walter Kidde & Company, Inc.
590 Main Street, Belleville 9, N. J.

Water Kidde & Company of Canada, Ltd., Montreal, P. Q.

Kidde

Walter Kidde & Company, Inc.
590 Main St., Belleville 9, N. J.

Gentlemen:
Please send me additional information on the Kidde Compensators.

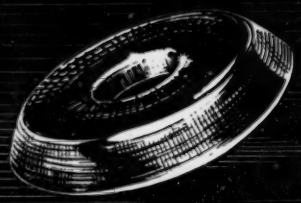
Name_____

Company_____

Address_____

City_____ State_____

Here's one . . .



. . . and there are 10,000 more!

FOSTER MACHINE COMPANY

Westfield, Mass., U. S. A.

Southern Office: Johnston Bldg., Charlotte, N. C. • Canadian Representative: Ross Whitehead & Company Limited, 1475 Mountain Street, Montreal, Quebec • European Representative: Muschamp Taylor Limited, Manchester, England.

That's right . . . each week an average of 10,000 small parts, like this disc tension washer, are specially treated to give you longer wear from a Foster Winder — more machine for your money.

These parts are first copper plated . . . buffed on special machines . . . and then nickel plated before inspection and assembly. Copper plating and buffing help close the surface pores of the metal and prevent pitting. The copper also serves as a bond for the nickel and prevents it from peeling off.

In addition, before being painted all Foster Winder die castings also undergo special treatment to prevent oxidation.

These are just two of the many steps in building a Foster machine which are aimed directly at reducing upkeep and improving the quality of yarns wound on them.

Does it pay off? Less spotty yarn — less subsequent fabric seconds tell part of the story. Part replacement at rates as low as $3.50 per 100-spindle machine per year tell another. For the *complete* story on Foster winders — write today.

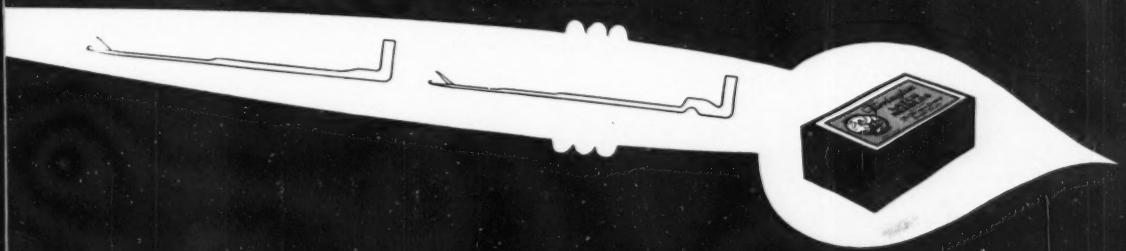
FOSTER F WINDERS

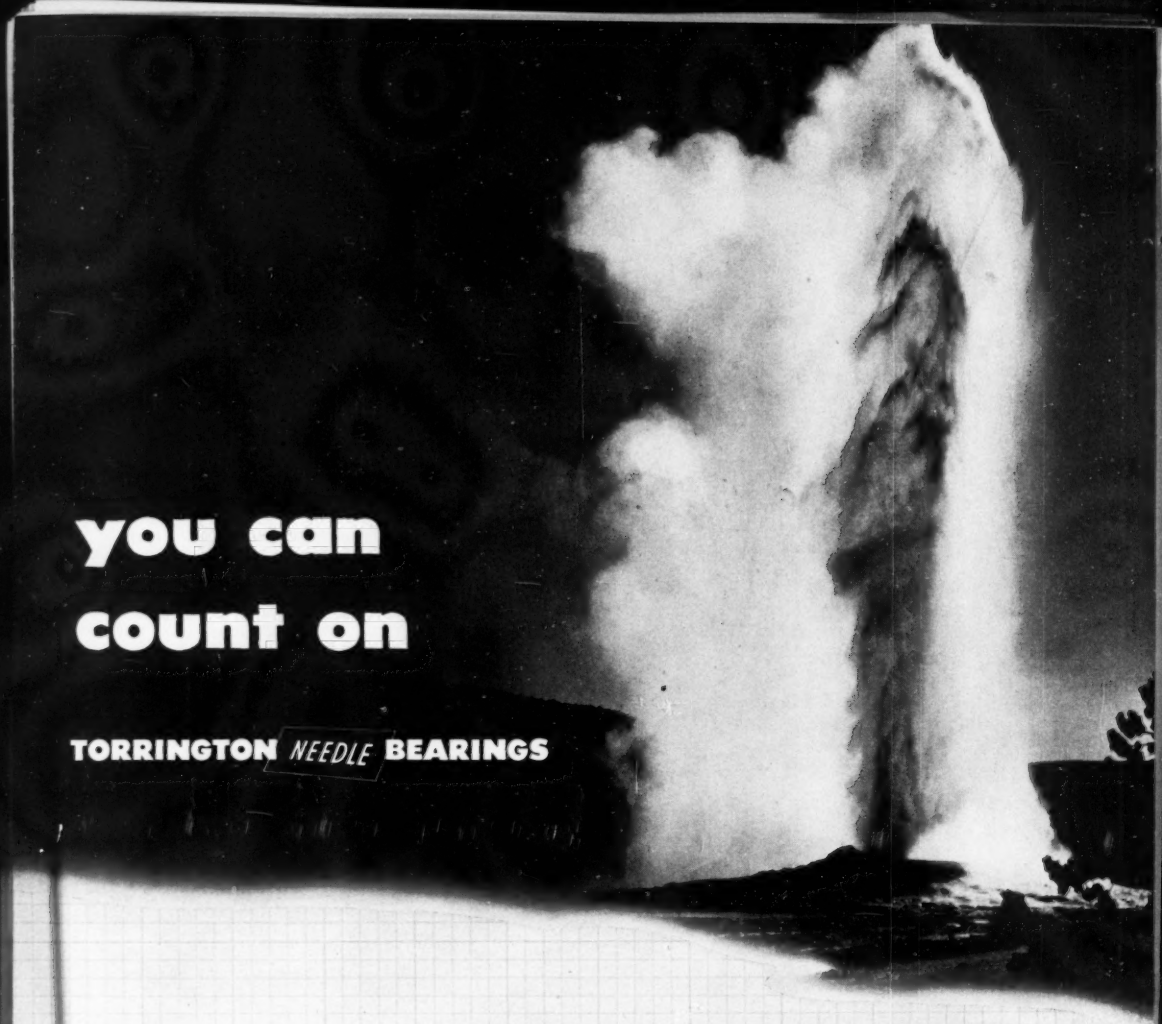
QUALITY WINDERS FOR ALL TYPES OF YARNS

masterpieces of knitting with **TORRINGTON needles**

It takes fine needles to do *consistently* fine knitting . . . and the quality of Torrington Needles is time tested, time proven. Remember, there's a Torrington Needle for *every* type of knitting.

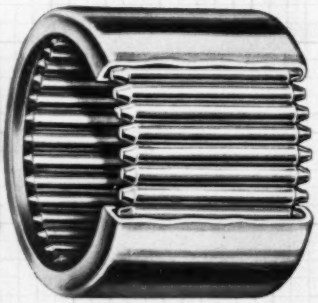
THE TORRINGTON COMPANY
Torrington, Conn., U. S. A. Established 1866
Branches: New York • Philadelphia • Chicago • Boston
Greensboro, N. C. • St. Louis • Toronto, Canada.
Pacific Coast Representative: E. G. Paules, 1762 West Vernon Ave., Los Angeles 37, California.
Broadgate House, 7-10 Eldon St., London E.C. 2, England.





you can count on

TORRINGTON *NEEDLE* BEARINGS



. . . for faithful performance and smooth anti-friction operation.

. . . for savings in machining time and costs. No grooves or shoulders are needed . . . just a plain bore housing machined to proper dimensions.

. . . for fast, economical assembly. A simple arbor press operation seats the bearing by press fit. Spacers or retainers are not required.

And you can help your customers reduce maintenance. Needle Bearings require a minimum of service attention.

Our engineers will be glad to help you put these and other Needle Bearing advantages into your product.

THE TORRINGTON COMPANY

Torrington, Conn. • South Bend 21, Ind.

District Offices and Distributors in Principal Cities of United States and Canada

TORRINGTON *NEEDLE* BEARINGS

NEEDLE • SPHERICAL ROLLER • TAPERED ROLLER • STRAIGHT ROLLER • BALL • NEEDLE ROLLERS

Are you having trouble in getting pine oil, sulfonated castor oil or other wetting and penetrating agents?

SOROLENE* G

. . . is in *good* supply. It is low in cost. And it does a satisfactory job wherever wetting and penetrating action is required!

Write for Data Sheet 23-T

*Trade Mark Reg. U.S. Pat. Off.

onyx

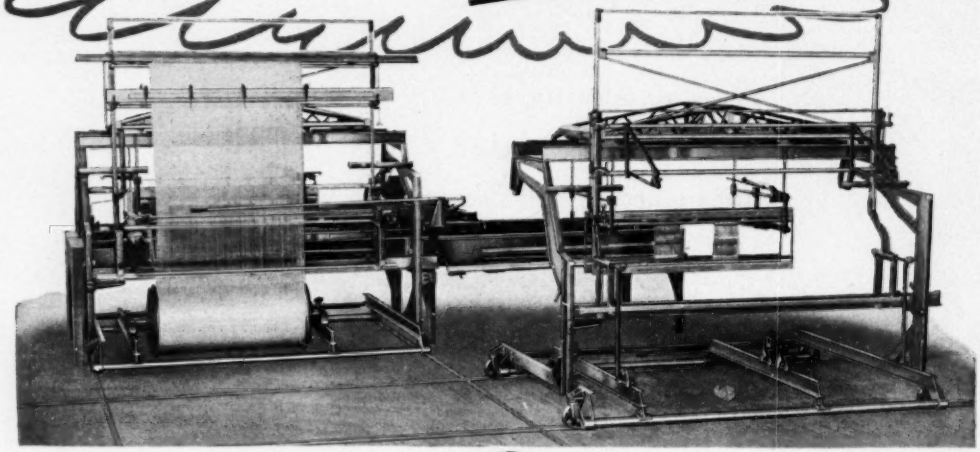
CHEMICALS FOR DYEING • FINISHING • PRINTING

ONYX OIL & CHEMICAL COMPANY
TEXTILE DIVISION
103 MORRIS ST., JERSEY CITY 2, N. J.
CHICAGO • BOSTON • CHARLOTTE • ATLANTA

In Canada: Onyx Oil & Chemical Co., Ltd., Montreal, Toronto, St. Johns, Que. For Export: Onyx International, Jersey City 2, N. J.

BARBER COLMAN

FASTER REPLACEMENT
STRAIGHTER WARPS
LOWER COSTS



BARBER-COLMAN MODEL G *Warp Drawing Machine*

The Model "G" Barber-Colman Warp Drawing Machine is designed to be used in a wide variety of weaving mills and is particularly valuable to manufacturers of dobby fabrics, shirtings, suitings, and dress goods. This machine is also extremely useful for mills weaving broadcloth, ginghams, fancy rayons and cotton specialties and sheeting. Mills that use up to 20 or 24 harness shafts in the construction of fabrics and 8 or less banks of warp stop motion, where quick change-over in style and pattern is necessary, will find this model the answer to their warp replacement problem.

Field reports show up to 3000 Ends per Hour
Draws warps from 10 to 300 ends per inch
Draws from flat sheet or 1 x 1 lease
Draws from single or double beam, or split sheet
Draws 1 x 1 lease in double beam or split sheet

Warp threads are drawn through drop wires, heddles and reed
IN ONE OPERATION
from any predetermined draft

HARNESS FRAME LENGTHS	
Size of Machine	Maximum Overall Length of Harness
48	54"
66	72"
86	92"

MODEL "G" MACHINE CAPACITIES
The Model "G" can be furnished in the following capacities at no difference in cost:
Reed, 20 Harness, 8 Banks of Drop Wires
Reed, 22 Harness, 6 Banks of Drop Wires
Reed, 24 Harness, 4 Banks of Drop Wires
DROP WIRE CAPACITY: 9/32" through 3/4" wide

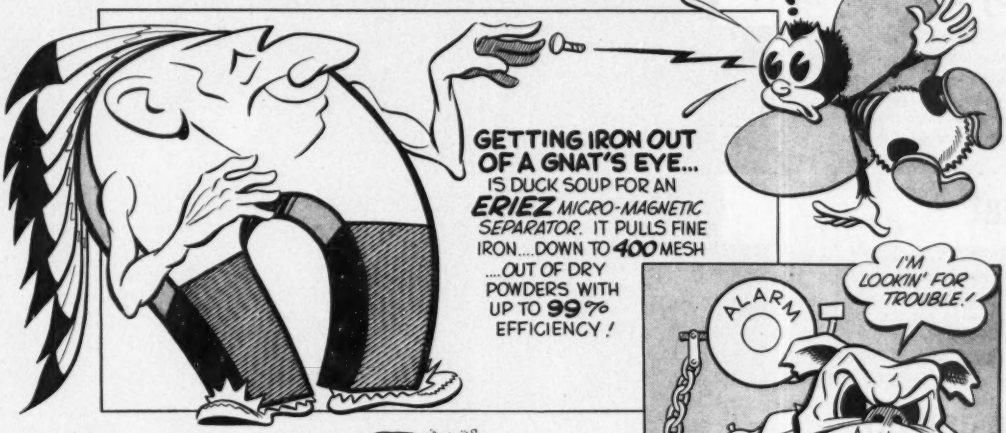
WILL DRAW
- Cotton Yarns
- Filament Yarns
- Spun Yarns
- Woolens and Worsteds
- Monofilaments

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

BARBER-COLMAN COMPANY
ROCKFORD • ILLINOIS • U. S. A.
FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U. S. A. MANCHESTER, ENGLAND MUNICH, GERMANY

ERIEZ MAGNETIC ATTRACTIONS

ERIEZ MANUFACTURING CO., ERIE, PA., U.S.A. • PRODUCERS OF MAGNETIC SEPARATORS AND SELLERS OF (RCA) ELECTRONIC METAL DETECTORS

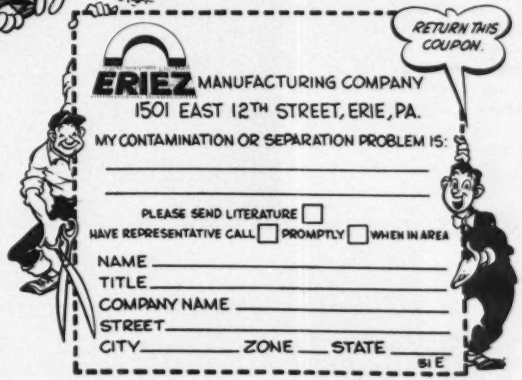


GETTING IRON OUT OF A GNAT'S EYE... IS DUCK SOUP FOR AN *ERIEZ MICRO-MAGNETIC SEPARATOR.* IT PULLS FINE IRON....DOWN TO *400* MESH ....OUT OF DRY POWDERS WITH UP TO *99%* EFFICIENCY!

THE *R.C.A.* METAL DETECTOR, SOLD BY *ERIEZ*, IS AN **ELECTRONIC WATCHDOG** THAT SPOTS ANY KIND OF METAL IN ANY KIND OF NON-METALLIC MATERIAL OR PACKAGE. WARNS BY GONG OR LIGHT, OR REMOVES THE CONTAMINATED PACKAGE.... ***AUTOMATICALLY!***

RECOVERY OF EXPENSIVE TOOLS WITH AN *ERIEZ* **ATOM**AGNET PULLEY PAID FOR THE UNIT IN A YEAR. THE PULLEY AUTOMATICALLY CLEANS IRON AND STEEL FROM MATERIALS BEING CONVEYED ON BELTS.

AN *ERIEZ* PLATE-TYPE **ATOM**AGNET HAS MAGNETICALLY LIFTED A CIGARETTE WEIGHING *447 TIMES* MORE THAN THE FERROUS PARTICLE HIDDEN IN IT! ....RESULTS ARE JUST AS STARTLING WITH OTHER PRODUCTS.



ERIEZ MANUFACTURING COMPANY
1501 EAST 12TH STREET, ERIE, PA.

MY CONTAMINATION OR SEPARATION PROBLEM IS:

_____

_____

PLEASE SEND LITERATURE ☐
HAVE REPRESENTATIVE CALL ☐ PROMPTLY ☐ WHEN IN AREA

NAME _____
TITLE _____
COMPANY NAME _____
STREET _____
CITY _____ ZONE ___ STATE _____

BIE

They did

This North Carolina mill saw the advantages to be gained in terms of increased production and reduced costs through a modernized drive.

what

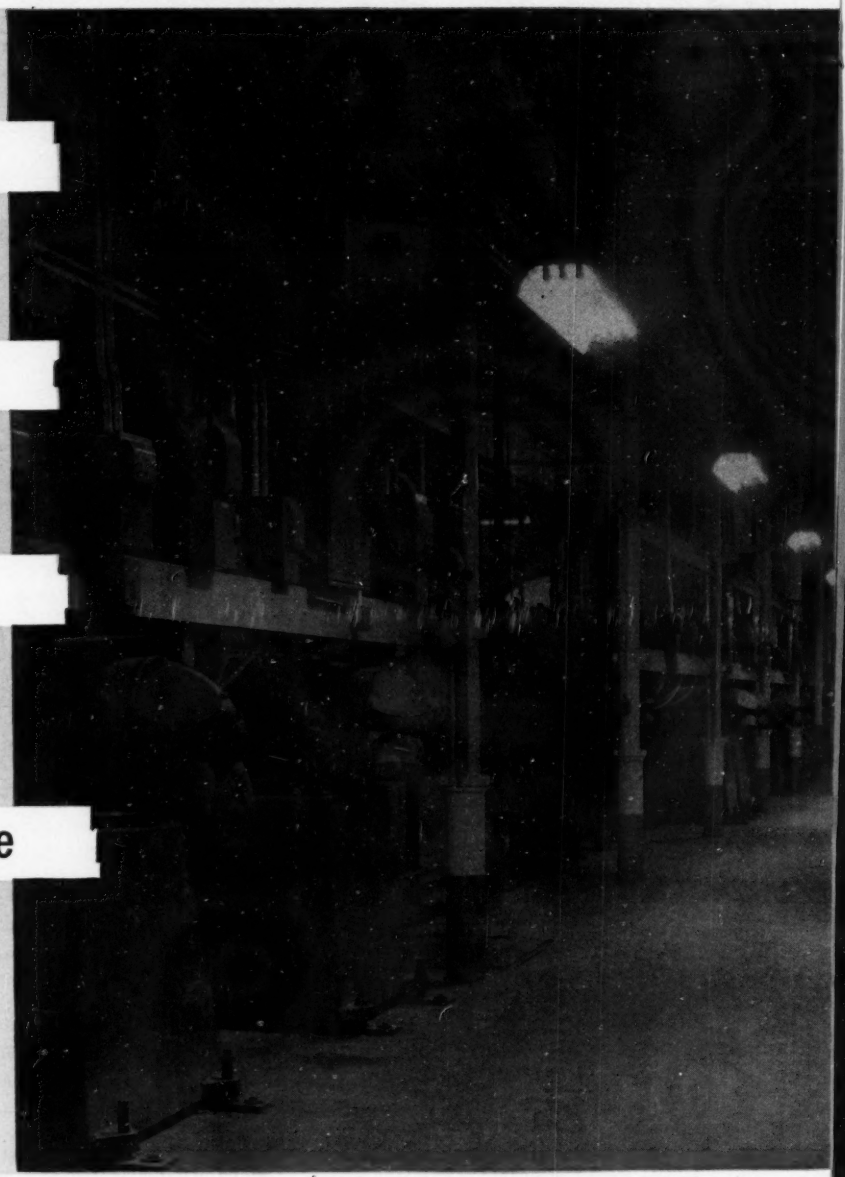
They called in their Westinghouse representative early in their plans to get the benefit of Westinghouse experience with similar installations.

you can do

Do what hundreds of other textile firms are doing. Have Westinghouse work with your engineers and the machinery builder in the application of drives and other equipment to your plant.

to produce more

Whether it's a new drive like this, more dependable and efficient electrical distribution, better servicing or simply the application of a piece of electrical equipment to a tough job, Westinghouse has the answer.



Choose *matched drives* for your finishing machines

That *extra* productive capacity that you want from your finishing machines often depends on "matching" the electrical drive to the textile process and productive requirements of each machine.

Extra production, for instance, can be obtained by running the range at the highest speed that the process and machine will permit. Westinghouse has designed drives that are operating ranges at 375 ypm.

High quality frequently depends on precise speed and tension control. *Low maintenance* is a result of well designed apparatus and the simplest system practical. *Reduced man-power requirements,* particularly important today, depend on the degree of automatic control. This also reduces the human judgment element and helps raise quality. *Versatility,* which permits operating individual sections of a range independently if desired, can be worked into the control system. All of these factors are functions of the drive.

That's why it's important to get a drive that is "matched" to your requirements. This can take the form of a "packaged drive" or of separate components mounted as desired. That's why Westinghouse recommends a thorough study of all factors before a drive is selected.

Your Westinghouse representative will be glad to help with your drive requirements . . . and he is backed by engineers and textile specialists with years of experience in the application of these drives to textile mills. They'll be glad to work with you and your finishing machinery builder on new drive requirements.

NEW FREE BOOK

Here's help, too—this 32-page book gives you factual information about Westinghouse finishing drives. Tells about tension control, cost factors, speed range, operating economies, maintenance features and other vital points. Write for Booklet B-4034, "Westinghouse Equipment for Textile Finishing". Westinghouse Electric Corporation, Box 868, Pittsburgh 30, Pennsylvania. J-94843

YOU CAN BE SURE... IF IT'S

Westinghouse

EQUIPMENT FOR TEXTILE PRODUCTION

"Whether there be Prophecies, They Shall Fail"

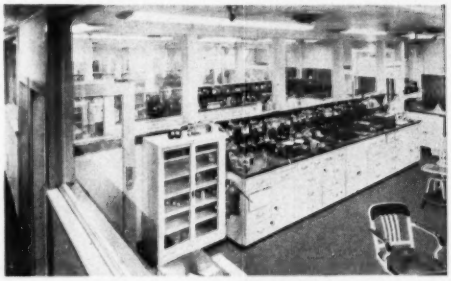
. . . those words, spoken by a redoubtable seer nearly 2000 years ago, have probably never been so pertinent as they are today. For today's most carefully computed prediction may prove completely false tomorrow. *We* certainly are not attempting to prophesy anything, but are simply keeping "our noses to the grindstone" doing all we can to provide the textile industry with top quality chemicals that assure better and more economical processing, and *superior products.*

The pictures shown here join with our headline to emphasize this message we would leave with you: *Whatever the uncertainties ahead, you can do no better than call upon the experience, skills and facilities accumulated by Nopco*.*

One of the oldest and most reputable suppliers of processing chemicals, we are prepared to supply you with outstanding Nopco FUA, an extremely versatile and efficient wool oil; Nopco 1656-R, the *one* worsted lubricant that eliminates static; nylon coning oils, dyeing penetrants; synthetic detergents and wetting agents; silk and rayon throwing oils; and the many other textile products for which we are famous.

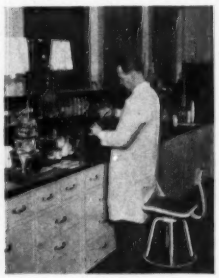
As you go to work today in the interests of national defense, remember, too, that we are ready to make recommendations and supplement laboratory data with technical aid right in your mill. It will remain our fixed policy to serve you to the best of our ability, *come what may.*

Nopco Headquarters — Harrison, New Jersey



New Nopco Research Laboratories

Evaluating the effectiveness of warp and filling size formulated to give specific weaving results.



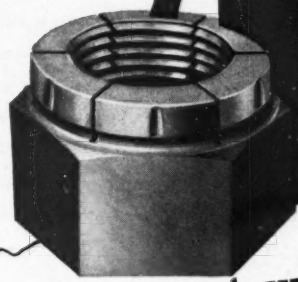
Preparing a sample of processing oil preparatory to running exacting laboratory tests.

NOPCO
EVOLVED THRU RESEARCH

NOPCO CHEMICAL COMPANY
HARRISON, NEW JERSEY
Branches: Boston, Chicago, Cedartown, Ga., Richmond, Calif.

*REG. U. S. PAT. OFF

Why FLEXLOC SELF-LOCKING NUTS



"This nut will take the place of the two regular nuts and the washer that is now on this piece."

(Part of a letter from a Connecticut distributor.)

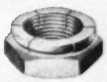
...simplify assembly

You can readily see why FLEXLOCs simplify assembly when you read the above excerpt from our distributor's letter. From comments like this we feel sure there must be hundreds of similar cases where FLEXLOC Self-Locking Nuts can be used to advantage.

FLEXLOCs offer these features: *one-piece, all-metal construction* — nothing to work loose or forget, no serious temperature problems; *resilient, automatic locking sections,* processed by our patented method to make possible FLEXLOCs' closely controlled torques; PLUS the fact that the most chattering vibration won't loosen FLEXLOCs, even after many applications.

Why not convince yourself with actual samples? Tell us what size you want and you'll receive them promptly, together with our latest literature.

FLEXLOC Self-Locking Nut, "regular" type.



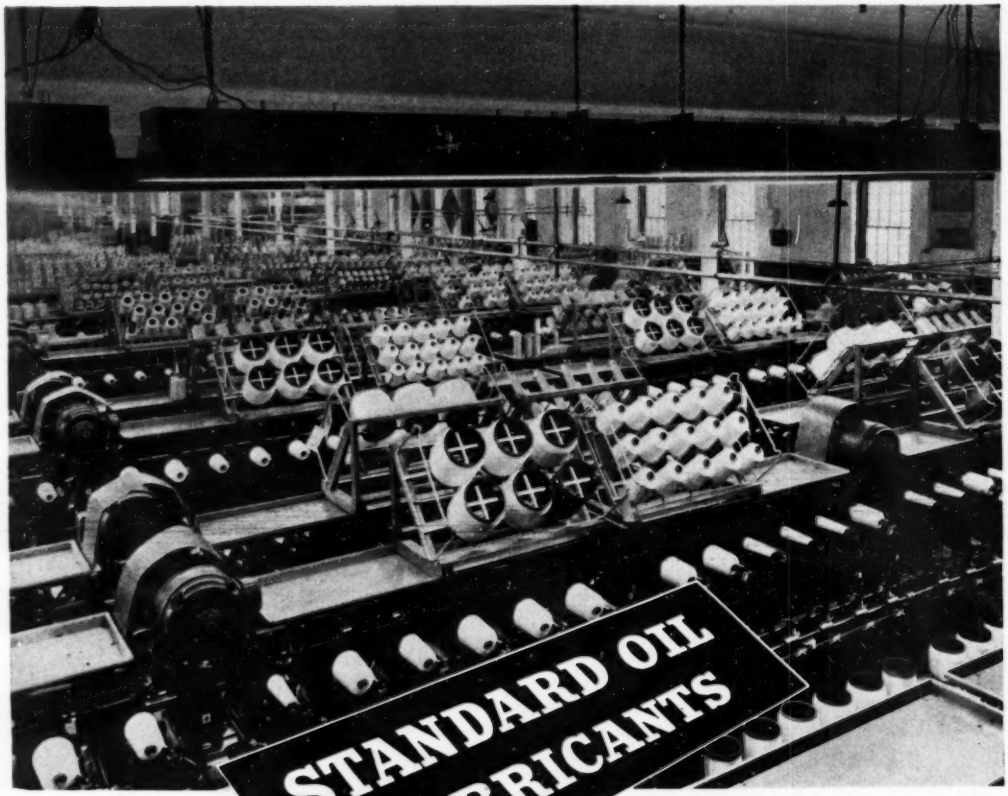
FLEXLOC Self-Locking Nut, "thin" type.

FLEXLOC Self-Locking Nut, external wrenching type.

SPS

louder than words

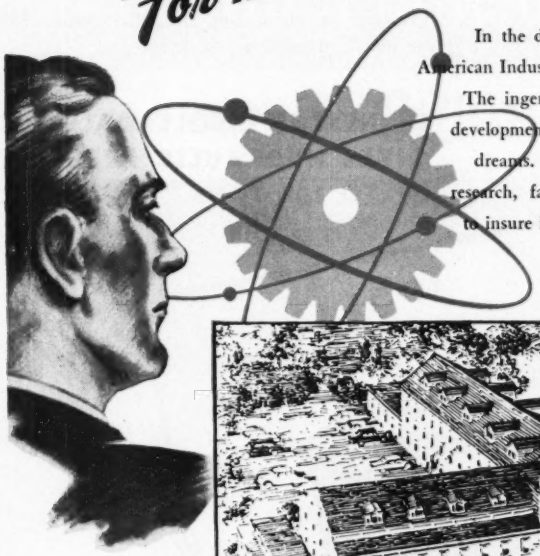
Actions speak louder than words. The *performance* of Standard Oil Lubricants on the job in Southern textile mills is a greater testimonial to their superiority than any claims we can make. The fact that, after sixty years of service to the textile industry of the South, Standard Oil Lubricants are still first in popularity is *proof* that they have continued to deliver satisfaction down through the years. ... Because Standard Oil representatives are in constant contact with users, Standard Oil Lubricants are always abreast of industry's needs. ... No matter what your lubrication needs may be, there is a *specific* Standard Oil Lubricant for each particular job. Your Standard Oil representative will analyze your lubrication problems and submit recommendations without cost or obligation.



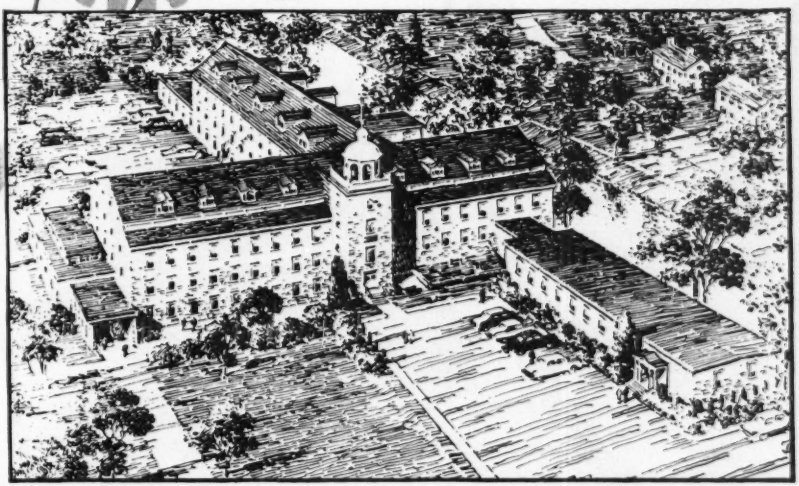
STANDARD OIL COMPANY (KENTUCKY)

HEADQUARTERS

For men who look beyond tomorrow



In the development of machinery for the Textile Industry, as in American Industry as a whole, progress is guided by men of vision. The ingenuity, skill and perseverance of its research men and development engineers have given form and substance to yesterday's dreams. Too often industry overlooks the importance of constant research, failing to recognize the need for adequate facilities to insure its continued progress. By providing new and expanded research facilities, Whitin confidently faces the future.



New Home for Whitin Research and Development

This fine, old stone mill adjacent to our main plant has been completely renovated. Lighting, humidity and temperature control devices of the most modern type provide ideal mill operating conditions.

More than fifty of Whitin's latest model machines are on display in an area approximating 25,000 square feet. In addition, a library, sales conference rooms and a completely equipped testing laboratory are included. Facilities are available for testing not only fibers of all kinds, but also the machinery on which they are processed.

An equal amount of space has been provided for the Research and Development Engineering Division and Experimental Machine Shop. The entire building is manned by a staff of textile technicians combining their skills for one purpose—to maintain Whitin leadership in making textile machinery better.

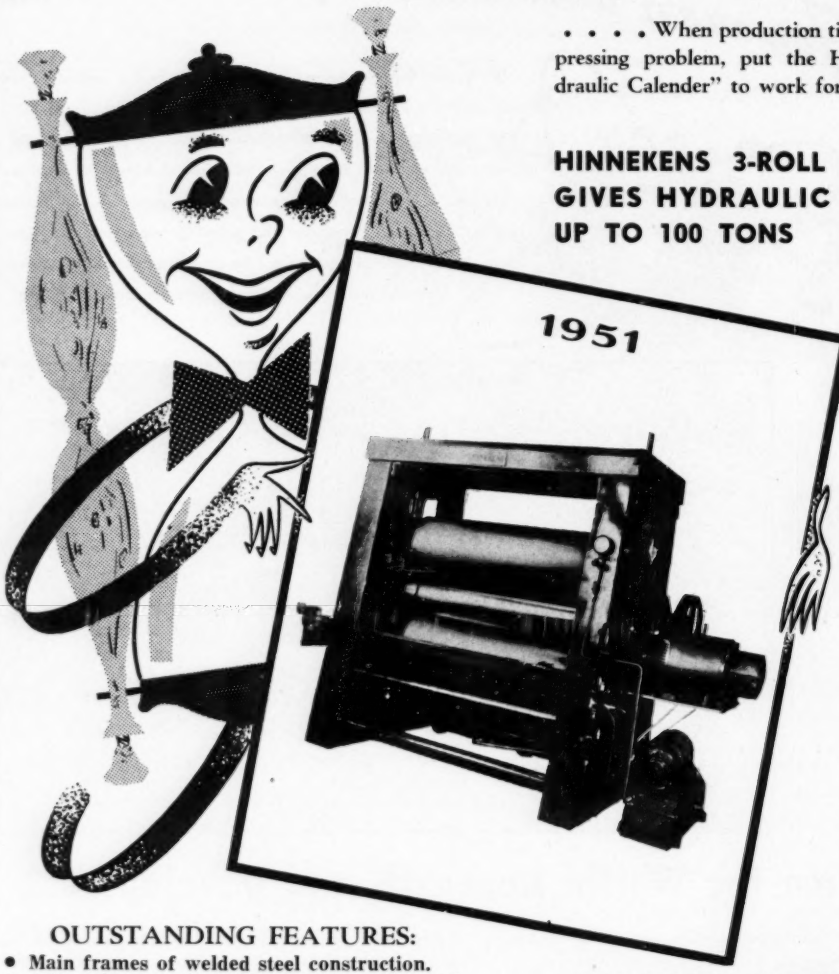
A complete description of this new Division will be available in the March - April issue of the Whitin Review.

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

SAVE PRODUCTION TIME . . . .



. . . . When production time is your most pressing problem, put the Hinnekens "Hydraulic Calender" to work for you.

HINNEKENS 3-ROLL CALENDER GIVES HYDRAULIC PRESSURE UP TO 100 TONS

OUTSTANDING FEATURES:

- Main frames of welded steel construction.
- Adjustable tension let-off and slip belt take-up.
- 10" diameter chilled iron center roll, ground and polished, with bored chamber for steam heating—roll mounted on Timken tapered roller bearings.
- 20" diameter paper rolls mounted on Timken tapered roller bearings.
- Individual motor driven hydraulic pressure regulating system.

THIS MODERN CALENDER has the Hinnekens' patented Roll Equalizing Device that assures perfect alignment when the rolls are raised or lowered. Roll faces remain parallel, preventing wearing of paper rolls taper at the ends.

Let a Hinnekens Sales engineer suggest the proper calender for your use.

Contact the representative nearest you.

THE HINNEKENS MACHINE CO., INC.

201 GODWIN AVE. PATERSON, N. J.

DESIGNERS AND BUILDERS OF CUSTOM-QUALITY DYEING, BLEACHING & FINISHING MACHINERY

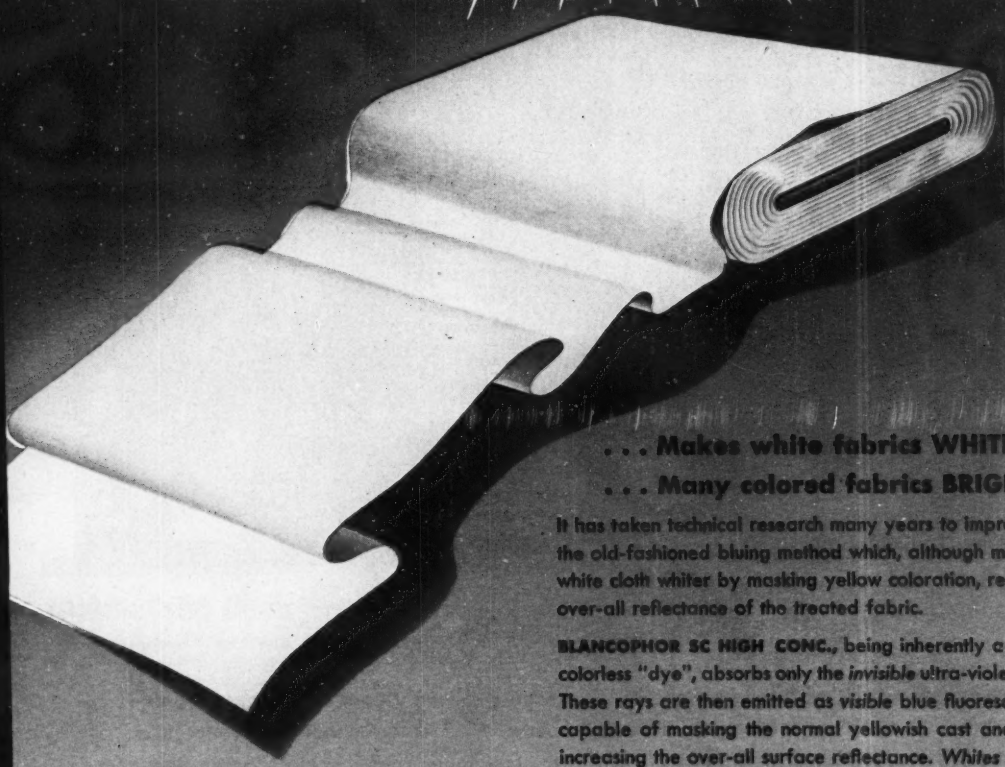
New England Representative — PETER JASWELL & SON, 37 BRENTWOOD AVE., PROVIDENCE, R. I.

Southern Representative — T. E. LUCAS ASSOC. INC., P. O. BOX 1696, CHARLOTTE 1, N. C.

Mexico and South America — MEYER, LYRA & CO. INC., 227-229 FULTON ST., NEW YORK, NEW YORK

NEW! BLANCOPHOR® SC HIGH CONC.

An optical BRIGHTENING Agent



. . . Makes white fabrics WHITER

. . . Many colored fabrics BRIGHTER

It has taken technical research many years to improve on the old-fashioned bluing method which, although making white cloth whiter by masking yellow coloration, reduced the over-all reflectance of the treated fabric.

BLANCOPHOR SC HIGH CONC., being inherently a colorless "dye", absorbs only the *invisible* ultra-violet light rays. These rays are then emitted as *visible* blue fluorescence—capable of masking the normal yellowish cast and increasing the over-all surface reflectance. *Whites appear whiter—many colors appear brighter.*

BLANCOPHOR SC HIGH CONC., a substantive dyestuff, like the more common colored agents in this class, exhibits high affinity for cellulosic fibres and fabrics. It can be applied in the normal course of processing.

For complete technical data, kindly address Dept. 62.

ANTARA® PRODUCTS

DIVISION OF

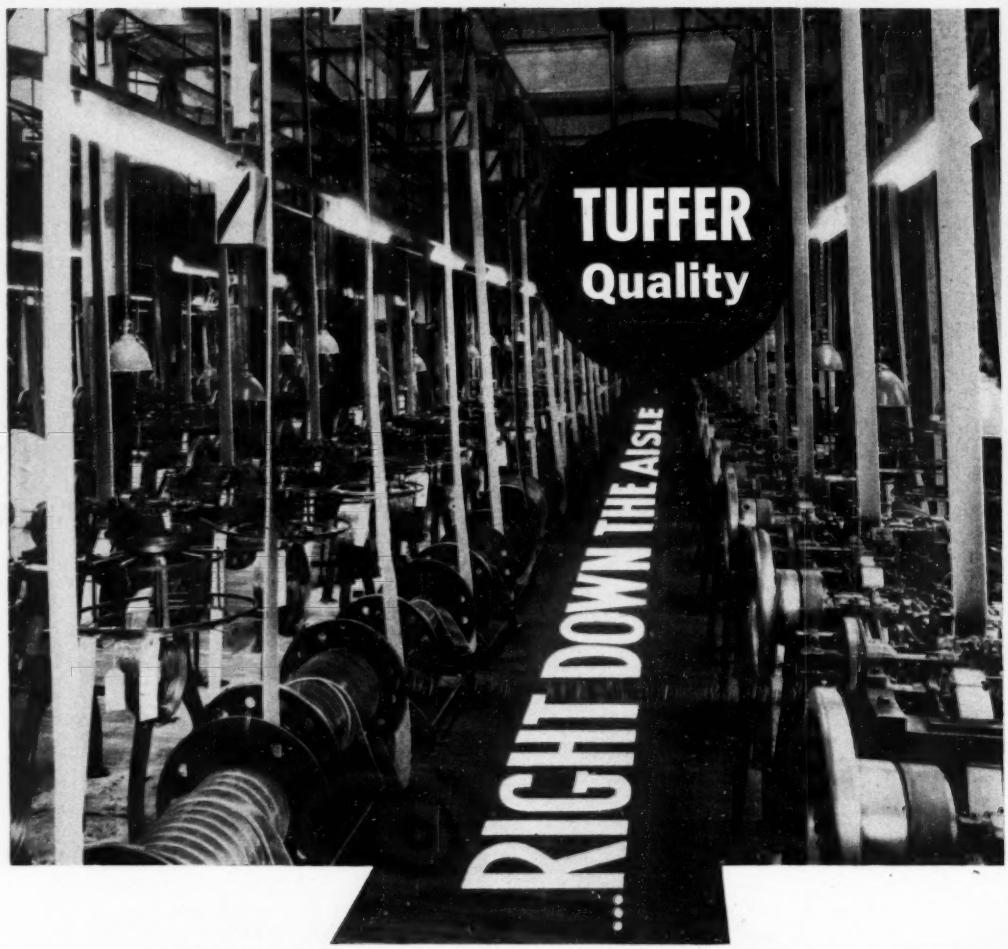
GENERAL DYESTUFF CORPORATION

435 HUDSON STREET • NEW YORK 14, NEW YORK

BRANCHES

Boston • Providence • Philadelphia • Charlotte, N. C. • Chicago • Portland, Ore. • San Francisco

IN CANADA: Chemical Developments of Canada Limited, Leaside, Toronto 17



Here you see our exclusive Tufferizing Process at work . . . turning out Tuffer Card Clothing with a degree of precision and uniformity heretofore unknown in the manufacture of card clothing.

These machines and the Tufferizing Process were developed in our own engineering department . . . where the search for better ways to make better card clothing is continuous.

Our hundreds of customers who reorder time after time are proof that Tuffer Card Clothing is a superior product. Try it next time.

HOWARD BROS. MFG. CO. WORCESTER 8, MASSACHUSETTS

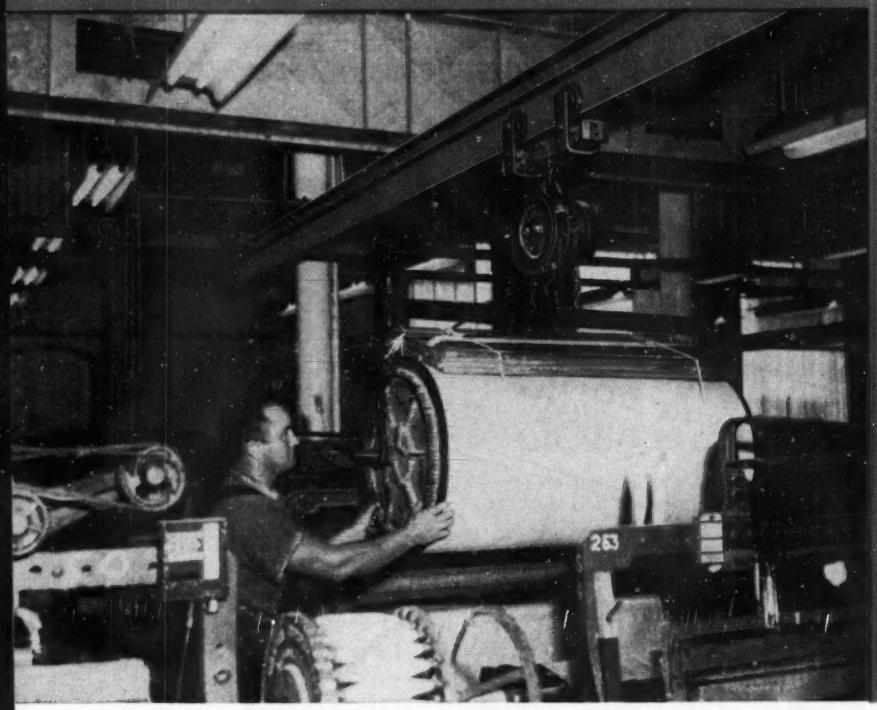
Southern Plants: Atlanta, Ga. and Gastonia, N. C.

Branches: Philadelphia, Pa. and Blanco, Texas *Direct Representation in Canada* A-5

TUFFER CARD CLOTHING

IMPROVES PRODUCTION ALL ALONG THE LINE

Overhead Louden MONORAIL Systems speed production, cut costs



. . . lap handling from pickers to cards

. . . beam handling to and from the slashers

. . . weave loom beam to and from tying-in machine

. . . loom beam handling in the weave room

. . . roll or bale handling in finishing

. . . beam and cloth handling in the dye house

Automatic Ceiling Cleaner

Just push the control button and let the Louden Automatic Ceiling Cleaner do the rest. As it travels around the room on its overhead Monorail track, the Louden Cleaner alternately sweeps right and left to keep ceiling, lights, piping, ducts free of lint. Write for details today.

The hazards of using floor gantries to handle beams and laps in textile mills can be avoided by the use of efficient, labor-saving Louden Overhead Handling Systems. Floor maintenance and aisle congestion are eliminated.

Beams weighing as much as 1,000 or 1,500 pounds are now speedily handled in slasher, weaving and dye departments . . . as are heavy laps to and from pickers, and bulky bales in cloth, inspection and opening operations . . . in a system that can be made to unify all process on a flow principle.

Labor costs are cut substantially, and the capacities of work and storage areas are increased . . . simply by the installation of Monorail equipment. Write today for a new, free, illustrated book, "Economical Material Handling" that may open your eyes to saving opportunities in the operation of your own mill.

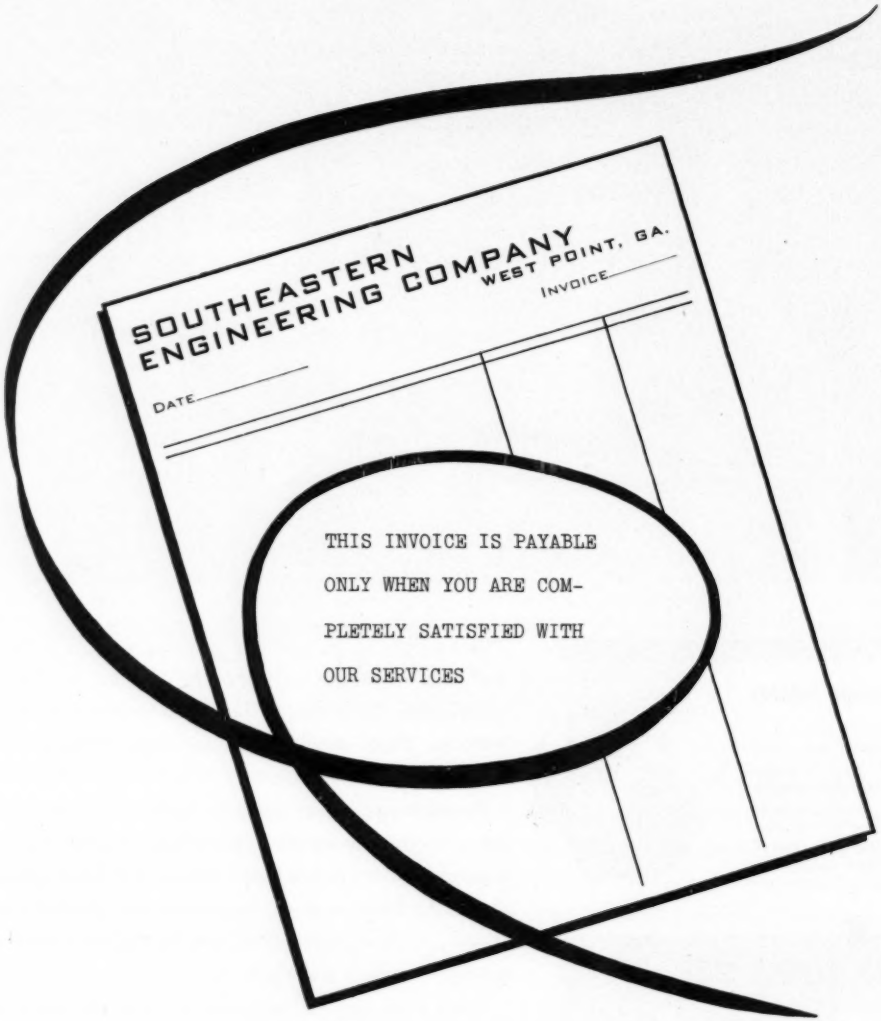
MODERN TEXTILE MILLS USE

Louden

OVERHEAD MATERIAL HANDLING

THE LOUDEN MACHINERY COMPANY • 303 COURT STREET • FAIRFIELD, IOWA

This is our Typical Invoice


SOUTHEASTERN ENGINEERING COMPANY
WEST POINT, GA.
INVOICE
DATE
THIS INVOICE IS PAYABLE ONLY WHEN YOU ARE COMPLETELY SATISFIED WITH OUR SERVICES

WE specialize in reducing and controlling waste in the textile industry. Our service is in use in mills running *COTTON, WOOL,* and *ALL TYPES OF SYNTHETICS.*

Our guarantee to you is a savings of at least five times the cost of the program during the first year. The average savings is twelve times its cost.

Write for a list of mills using our service – then ask them about us.

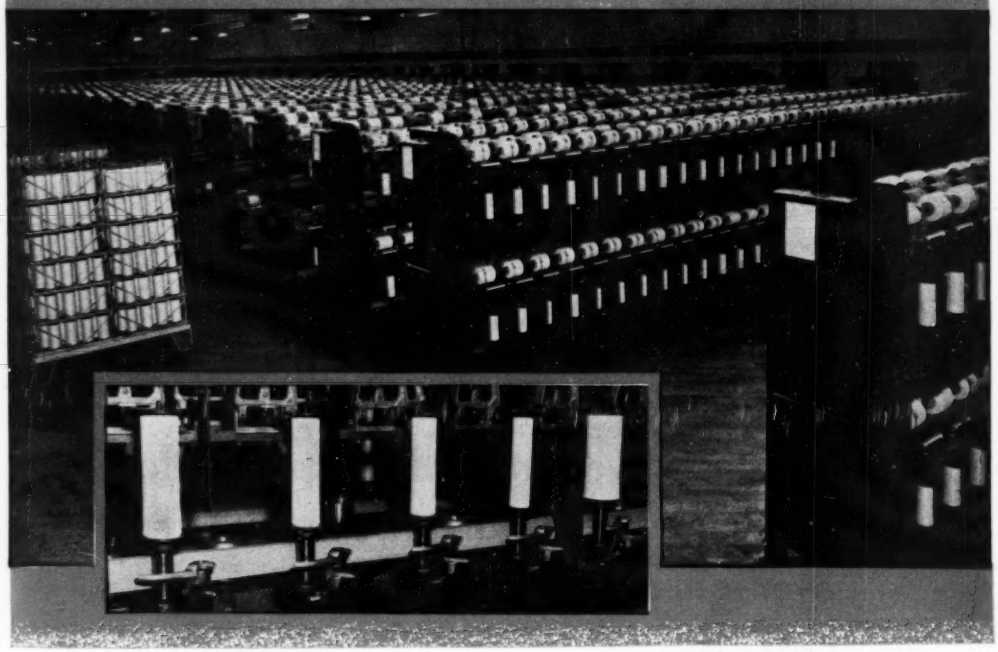
SOUTHEASTERN ENGINEERING COMPANY,

WEST POINT, GEORGIA

Marquette ROLLER BEARING SPINDLES

with FULL FLOATING FOOTSTEP BEARING

FOR COTTON • RAYON • NYLON • WOOL • WORSTED



This modern mill, one of several controlled by the Duplan Corporation, ran a test on a single frame of Marquette Roller Bearing Spindles in 1946. As a result, they have since placed many orders for Marquette Spindles—and today have more than 220,000 in operation on both old and new frames.

These Marquette Spindles are running at high speeds, with large packages. They are producing yarn of highest quality. Power and maintenance costs have been reduced.

You too can increase your production and reduce your costs by modernizing your old frames with Marquette Roller Bearing Spindles or by specifying them on new frames. *We will be glad to prove this through a test installation.*

The Marquette

PROTECTED BY U. S. AND FOREIGN PATENTS, AND PATENTS PENDING

METAL PRODUCTS CO.

CLEVELAND 10, OHIO

SUBSIDIARY OF CURTISS-WRIGHT CORPORATION

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Also Manufacturers of: HYDRAULIC GOVERNORS • FUEL OIL PUMPS • FUEL OIL INJECTORS
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Textile Industries
Vol. 115 • May, 1951

News in Brief

Distorted View, Says Taft. Referring to the Senate labor subcommittee report on the southern textile industry, Sen. Robert A. Taft classified the report as a distorted picture of labor-management relations in the South and particularly in the textile industry. He further said that the report was neither objective nor in any sense factual.

Super - Sonic Power Cotton Cleaning Research. Research has begun at the Institute of Textile Technology on the possibilities of sonic or super-sonic power in the cleaning of cotton. A lab model of a cleaner is under test.

Pepperell's Unbroken Record. With the recent declaration of a quarterly dividend, Pepperell Manufacturing Company is believed to be the only manufacturing enterprise in this country to have an unbroken dividend record for 100 calendar years.

Americans Use Water Like It Was Water. Water usage in this country is double what it was a decade ago, it was brought out at a recent meeting of the ASME. Conservation of water supply was urged.

Electronic Device Speeds Instrument Reading and Data Handling. Arthur D. Little, Inc., has reported a new electronic device to read test instruments at speeds up to 50,000 readings per second and record the readings on tape or punched cards ready for computation. Called the Digital Reader, it is expected to eliminate cumbersome human work involved in various applications.

About Face. Be prepared for gradual revision of "policy" by all-wool industry spokesmen. Official sanction will soon be accorded blends; a drastic departure from a former philosophy of "there are no substitutes for wool." The forthcoming stand by these spokesmen will admit the feasibility of using synthetics to enhance wool's naturally desirable properties. This change of opinion is predicated by the fact that all-wool manufacturers are being forced to resort to blends as a result of short supplies and concurrently high prices of wool in order to stay in business—a position contradictory to former advertising and publicity strategy.

QM Research Lab. The new Quartermaster research laboratory to be located at Natick, Mass., will cost $11 million. Textiles are among items to be studied.

Clarify Allocation and Procurement—Sloan. George A. Sloan of International Chamber of Commerce recently called for immediate clarification in the allocation and procurement of raw materials—"elimination of the inconsistent performance by a host of administrative agencies . . . that have a governmental finger in the international economic pie."

Carpet Manufacturer Making Army Duck. Sizable quantities of cotton duck in several weights and widths for defense purposes will be supplied by Alexander Smith & Sons Carpet Company. Numerous velvet and Axminster looms are being converted to meet the order. Weavers are to be trained in duck

WOLF'S FUR?

Guess again. This shiny pelt is made from nylon and was developed by the Air Materiel Command and the George W. Borg Corp., of Delavan, Wis.

The new product, expected to be satisfactory for a large number of fur requirements for Air Force flight clothing and other uses, is said to be cheaper, better, and in abundant supply compared to what the wolves turn out.

Brig. Gen. Fred R. Dent, Jr., chief of the Air Materiel Command's Engineering Division, and Donald B. Huxley, chief of the Aero Medical Laboratory

USAF Air Materiel Command photo

Clothing Branch, are shown here examining the "synthetic wolf."

both are paper each is ideally suited to its job

This A.P.T. 3-to-the-pound BOBBIN will retain its precision unimpaired under treatment that would make conventional bobbins unfit for service.

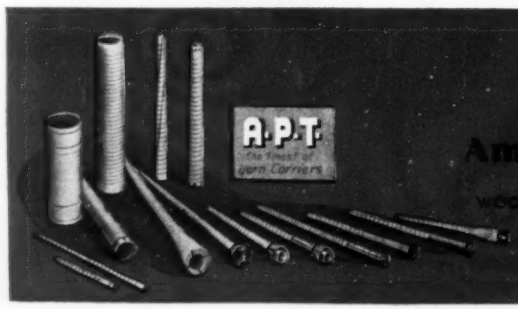
This A.P.T. 1900-to-the-pound COP could easily be crushed between thumb and forefinger.

The fibrous, homogeneous nature of paper makes it infinitely adaptable to yarn carrier requirements. A.P.T.'s many refinements . . . plus incorporation of metal and plastic by our patented welding method as needed . . . produce bobbins that retain their efficiency PERMANENTLY. (Every A.P.T. order tailor-made to your specific mill conditions.)

Consult A.P.T.

SOME ADVANTAGES OF USING A.P.T. CARRIERS

1. **SURFACE** of correct texture, groove and finish for free but controlled delivery of the particular yarn.
2. **STRUCTURE** by nature resilient and proof against chipping, splintering or cracking; of composition and hardness for the particular need, with light weight.
3. **MOISTURE RESISTANT** due to impregnation; of fibre construction inert to warping and distortion.
4. **UNIQUE DURABILITY**: retain their "brand new" degree of performance throughout their years of life. They do not "wear out" or diminish in efficiency from normal use.



American Paper Tube Co.

ESTABLISHED 1898

WOONSOCKET, R. I. GREENVILLE, S. C.

CANADIAN REPRESENTATIVE:
HUGH WILLIAMS & CO., TORONTO, CANADA

weaving methods. During World War II Alexander Smith produced 44,000,000 square yards of cotton duck for the Armed Forces, as well as 9,000,000 square yards of blankets and other military items. (For details of how carpet looms have been modified to weave duck, see feature story beginning on page 122.)

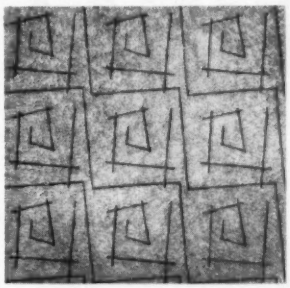
Nylon Inventor Honored. An annual research professorship in chemistry has been established at Harvard University by DuPont in honor of the late Dr. Wallace Hume Carothers, who headed the group responsible for development of nylon.

Spectrophotometry Progress. The spectrophotometer has become established as a tool to assist the textile dyer. Altogether 32 applications of this instrument to problems in the textile industry have been reported.

Plastic Protective Coating. U. S. Rubber Company has developed a new air-drying plastic protective coating for tanks, pipes, fittings, and chemical processing equipment against attack by splash, drip, spray from corrosive chemicals, and rust.

Rubber Thread Not Affected by Rubber Order. The recent NPA brief on rubber conservation affects many civilian uses of rubber, but does not affect the use of dry natural rubber or natural rubber latex in the making of rubber thread. The only restriction on rubber thread is that manufacturers make only six colors and only eleven sizes.

Conserve Burlap and Cotton Bags. USDA has urged the conservation and maximum re-use of burlap and cotton bags to help offset an expected tight supply situation. These items are high on the list of essentials.



WON CARPET DESIGN AWARD

This design for carpets took top honors in the first annual national competition for the Fleischman carpet design award. Designer, LeRoy Wolfe of Chicago; award, $1000.

Report on Laundering Knit Fabrics. U. S. Dept. of Agriculture, Bureau of Home Nutrition and Home Economics, Washington, has issued a report on "The Effect of Laundering on Dimensions and Elastic Properties of Certain Plain and Rib Knit Cotton Fabrics."

Public Mad. Labor and its leaders were recently warned by C. F. H. Johnson, president of Botany Mills, that the public is mad and is getting madder; cautioned that all concerned should stop, look, and listen before the public takes affairs into their own hands. Botany operatives were on strike at the time the message appeared in the company's employee publication.

Roving Frame Stop Motion. A report soon will be made on a new type of stop motion for roving frames which is understood to operate on a combined principle of pneumatic air collection of the broken end and an electronic stopping device. Tested for sometime under mill conditions, the device is kept under "secret" classification by a North Carolina textile plant. A Georgia mill soon will be working with the device also. A well known textile supplier will market the item.

Synthetics Spokesman on Fibers and War. A. E. Buchanan, Jr., of the Du Pont Company, speaking before the Conference on New Fabrics for the Armed Forces sponsored by the American Association of Textile Technologists,

BREAK THE BANK

New York State Senate Bill 3120 - 3249 - Introduction 2814 provides that if an employer organizes defense volunteers from the ranks of his employees for purposes of controlling fire, panic, or facilitating rescue, evacuation, etc., then the factory shall be liable for full compensation to such personnel suffering damage during and after an attack.

A wider interpretation may be read into this bill conceivably applying to every mill employee—if any operative is killed or injured as a result of hostilities while performing normal duties, namely self-protection and damage control, the company can be held liable, it is said.

One prominent textile mill in New York State, employing thousands of operatives, has already organized nearly 900 of its personnel into a plan for defense. This company (also making war goods) would face bankruptcy if only a small percentage of its employees made the casualty list, not to ignore loss of the physical plant. Consequently, serious thought is being generated among this mill's management toward the possibility of abandoning all civil defense plans—and risk only loss of the plant.

Serving The Textile Industry Since 1899

UNIFORMITY..

CONES ARE REMOVED AUTOMATICALLY
AFTER UNITEX SURFACE IS APPLIED

Mark of
SONOCO
PRODUCTS

Above all else, uniformity is perhaps the most distinguishing feature of all SONOCO Products.

Paper cones and tubes... produced by the thousands... to micrometer accuracy and precise specifications.

That's why SONOCO Products are the recognized standard of perfection throughout the world... why SONOCO is always your best and most dependable source of supply for textile paper carriers.

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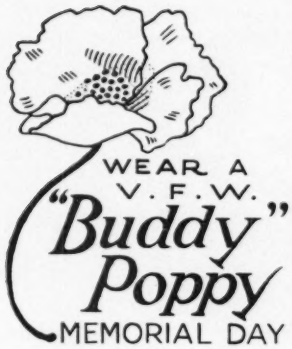
SERVES THE WORLD
PAPER CARRIERS
REG. U.S. PAT. OFF.

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. | HARTSVILLE S. C. | MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY



stated: "Functionality is the keynote and performance is the payoff. Facts will be more useful than prejudices, results more convincing than tradition. When the greatest military establishment in the world teams up with one of the strongest and most dynamic industries in the world . . . there can be no doubt of the end-result."

Fiber V Now Designated "Dacron." The new trademark for DuPont's polyester fiber, originally known as Fiber V and later designated "Amilar" (p 99, April TI) is "Dacron" (pronounced DAY-cron).

Philadelphia Textile Publication on Research. Executives in the textile industry may secure "Textile Research and Development Facilities of Philadelphia Textile Institute" which outlines the varied equipment and personnel for conducting research at the school.

Nylon Stockings in South Africa. Berkshire Knitting Mills are installing knitting machines for manufacturing nylon full-fashioned stockings in East London, South Africa. It is reported that the young South African men are apt pupils. Nylon yarn is imported from Great Britain.

AATCC Research Results. The results of AATCC research work during the past year are announced as follows: (1) Test instrument to evaluate the flammability characteristics of textiles—will give factual information; (2) tentative test to evaluate continuous wool scouring processes; (3) new accelerated wash fastness test to predict behavior of colored goods in commercial laundering.

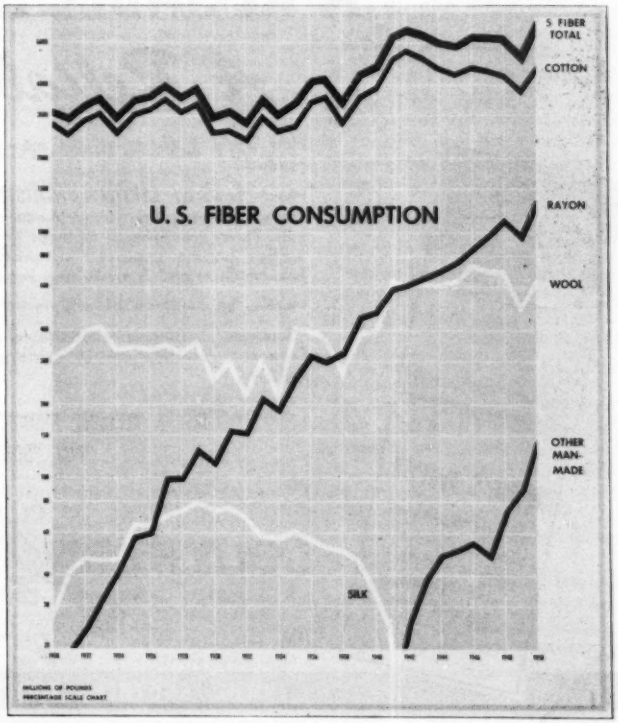
Then the White Collar Man. Wage orders have been signed which cover cost-of-living escalator clauses on wage adjustments for white collar employees after a number of a firm's operatives already have been given increases.

Textile Drying. Look for dramatic development in drying which soon will capture imagination of the textile industry. A similar technique has recently been worked out in the steel industry. It will have to do with radiant heat, electric panels providing the source. But here's the new twist. Temperature of the textile itself will be "watched" by a heat scanner, then regulating heat source temperature efficiently. A scanner is ready which will operate on low temperature side—below 600 F. Thermoplastic materials probably will be the first to benefit. Here temperature of thermosetting fiber is critical factor. Application is suitable for warps and fabrics—perhaps goods in other stages of manufacture.

QM Specifications. Interested in government contracts: Write for "Summary of Specification Requirements for Quartermaster Textiles" by Office of Technical Services, U. S. Dept. of Commerce, Washington, D. C., or to local field offices. Price $3.25.

(For other News Briefs, please turn to page 237)

From March, 1951, issue, "Rayon Organon"



A RELIABLE SUPPLIER!

A Reliable Product?

How could a good, reliable manufacturer produce anything *but* a reliable product?

Here's how! *BY LETTING INDUSTRY GET AHEAD OF HIM!* For instance, during recent years you've made many changes and improvements in your mill. Power transmission methods have changed, too. Has your supplier of flat leather belting improved his product to meet your new and increasingly heavier demands? *Is his belting better today than it was even a few years ago?*

Here's the Southern Belting answer:

"Southern" belting is *unconditionally guaranteed* to equal the most rigid performance specifications in existence. Performance beyond requirements of industry.

MILLIONS in TRUST!!
SOUTHERN Belting COMPANY
HERE'S WHY!
Modern "Southern" production methods assure modern belting-peak performance.

BUY A RELIABLE PRODUCT FROM A RELIABLE SUPPLIER.
BUY "SOUTHERN" BELTING.

SOUTHERN *Belting* COMPANY

236 FORSYTH STREET, S. W. ATLANTA 2, GEORGIA

THE "SOUTHERN WAY" IS THE MODERN WAY

AN EXECUTIVE Views

THE NEWS IN TEXTILES

Prepared by a man who is closely identified with the textile industry.

Economic Controls

AS WE MOVE more deeply into this period of economic controls, it becomes more and more evident that the government is trying to ride two horses at one time.

On the one hand we are being told that inflation is the greatest evil facing the American nation, and that prices must be kept down. An elaborate and complicated price agency has been established, replete with general ceiling price regulations, amendments, interpretations, amendments to interpretations, and then on top of it all, new ceiling price regulations replacing those previously interpreted and amended. The purpose of the whole business, they tell us, is to keep prices down, and every man (or woman for that matter) who has pushed a cart through a super-market knows how high prices have gone.

At the same time, however, the leaders of our government appear to be keeping a sharp weather-eye for the direction in which the political winds are blowing. They know, as does every man with any common sense, that prices cannot be kept down if wages are allowed to go up. You can't keep a window down by raising it. But at the same time, they know that quite a few votes come from labor, and that if labor is not appeased, there will be great turmoil in Bagdad on the Potomac.

In somewhat the same manner, politicians are very skittish in dealing with farm groups. Apparently, there is something sacred, something like the Little Red School House and blueberry pie, about the American farmer, and to talk controlling prices at his level is to talk heresy and to risk the firing squad of public opinion. The theory is evidently that no ceiling is needed at the farmer level as long as there is a control on the next level up. This is happy and wishful thinking, of course, because when butter goes up at the farm level, the price agency eventually has to raise the ceiling at the retail level, or retail stores will be forced to stop selling butter.

The government is even more guilty from the standpoint of dealings on direct transactions which contribute to inflation. Non-defense spending continues at a rapid rate, and there is still considerable talk about "social gains" at a time when a ruthless and powerful enemy is lurking outside the palace gates.

Also, it is apparently the intention of the government to continue contributing to this inflationary spiral by keeping wage rates as high as possible on emergency defense projects. A glaring example is the recent furor of the proposed high rates for common laborers who were to work on the H-Bomb plant in South Carolina.

And Now Textiles

If you have followed the recent jousting with regard to textile wage rates—if you are in the textile business and have not been following this, you had better have someone "brief" you—you are fully aware of the fact that our own industry is also making its contribution to the spiral.

There is considerable reason to believe that by the time you read this, wage rates in cotton and rayon mills will have taken another sizable jump. In addition, so called "fringe" benefits will also have moved upward. The effect of both steps is to further increase the cost of manufacturing cotton goods. This increased cost will later be reflected in increased ceiling prices (we hope) for cotton goods. And the inflation spiral continues its mad whirl.

One thing that some of the old hands worry about is how we are ever going to get costs back down to where the average person can buy a shirt or a sheet without having to cash in his war bonds. Joe Stalin is not going to live forever,

ROPER SURVEY FOR WOOL BUREAU SHOWS:

1. Three out of four men dress for success.

2. Men want a suit fabric that keeps its shape.

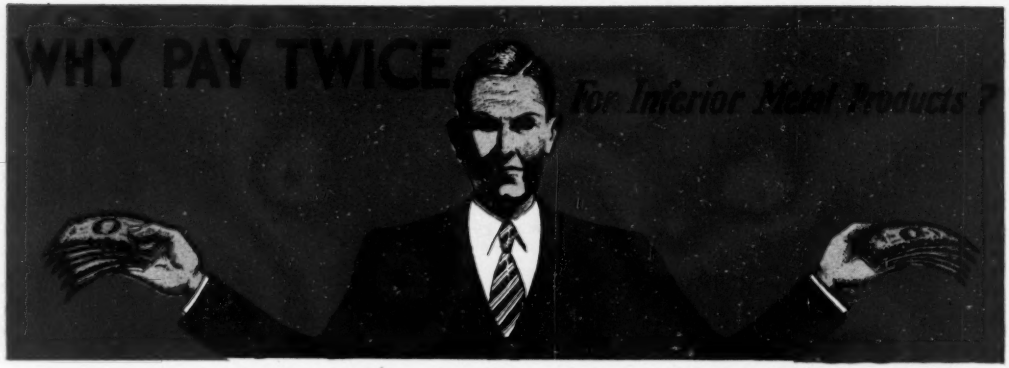
3. 68% of men say women influence suit purchases.

4. 85% of women say first impression of man is influenced by way he dresses.

5. Fabric is the most important factor in men's choice of suits.

6. 67% of men say that with everything the same except the fabric, they would choose an all-wool suit at a higher price.

From booklet "Your Clothing Customer Has His Head Examined," Wool Bureau, Inc., 16 W. 46 St., New York 19.



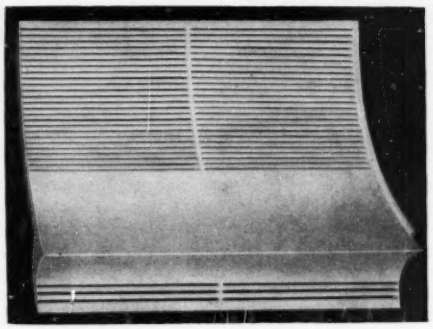
Waste and wear are the extra price some manufacturers pay for inferior cylinders and card screens: premature failure of spinning equipment due to vibrating cylinders . . . good cotton lost due to poorly-built screens. This is *needless* expense!

Needless, that is, if you standardize on Jenkins engineered products.

Jenkins spinning cylinders are die cut and formed for dimensional perfection, dynamically balanced by a Jenkins process which eliminates damaging vibration. Their steadier, smoother performance gives longer wear *throughout* your spinning frame.

Card screens made to Jenkins precision standards are uniform in every part. Streamline features used exclusively on Jenkins screens assure close setting to card cylinder, improving yarn quality and eliminating fly waste.

A simple comparison of cost figures may show you how Jenkins engineered products can save you money. Write us, or ask a Jenkins representative.



JENKINS

ENGINEERED PRODUCTS

JENKINS METAL SHOPS, INC.
GASTONIA, NORTH CAROLINA
Serving the Textile Industry Since 1913

LABOR RULINGS

Threats, intimidation, and coercive statements by unions constitute violation of act even though they were not executed or did not have the expected desired results.

Local chief of police and two members of department were not employers within act when engaged in anti-union activities against employees of corporation.

Incentive rate may not be changed where contract prohibits a change, unless there is change in method of doing work.

Placing employer on "unfair list" is not in itself a secondary boycott by union, but communicating such listing to employees of other employers at their places of work is 'tantamount to a specific direction to cease work" and constitutes illegal secondary boycott.

Employer's pre-election conduct is not ground for setting aside election where union acquiesced therein and did not complain until after it had lost election.

Employer association by-law providing that a collective bargaining contract approved by a majority of the members shall be binding on each member unless he resigns within a specified period, is controlling and renders belated resignation ineffective to void contract.

and one of these days, even though it may be a long way off, the American people can settle back down to the pursuit of happiness. When that day comes, there is a strong probability that prices will hit the skids. What is going to happen to costs? At least that question is one you can worry about in the still, small hours of the night.

Price Controls

For better or worse, however, we are face to face with trying to understand the various regulations which come out of Washington like peanuts out of a penny vending machine. Whether or not the government is trying to hold down prices on the one hand, while encouraging the raising of wages on the other, is somewhat of a hypothetical question when you and other mill men are faced with trying to figure out whether 110% of the base period price or 105% of the current ceiling price, whichever is higher, is your ceiling price. If you are like us, you may even have trouble reading a sentence like that while at the same time maintaining a firm grip on your sanity. Certainly for the time being price controls, like sin, are here to stay.

Of one thing the textile industry can be certain, and that is that we cannot live under a ceiling which utilizes the May-June 1950 period as the base period. This was a time of extremely low prices, a time for wining and dining prospective customers, a time for much thoughtful consideration of the cost picture. Ceilings based on this period would be unrealistic and would certainly curtail production.

The hope is that when the pricing formula is finally released, OPS will select a period based in whole or in part upon the 1946-1949 average. Those readers with ulcers enough to remember the last war will recall that the late-lamented OPA used the 1936-1939 period as the base, and this was upheld by the courts on the theory that Congress had designated this as the base for excess profits tax computations and that it was right and just for OPA to take the same years. Now, during the regime of OPS, Congress has taken 1946-1949 as the base period for excess profits taxes, and it is logical to assume that OPS should also select this period.

Time alone will tell whether or not the government will be logical when the shoe is on the other foot. There is ample experience to indicate that it may not be.

In the meantime, keep your file of regulations up to date, post all the amendments and interpretations, and then throw the whole business out the window and take a vacation.

May 12—Spring meeting, **Alabama Textile Operating Executives,** Hotel Tutwiler, Birmingham, Ala.

May 16-18—Annual convention, **Cotton Manufacturers Association of Georgia,** Sheraton Plaza Hotel, Daytona Beach, Fla.

May 17-19—Annual convention, **South Carolina Cotton Manufacturers' Association,** The Cloister, Sea Island, Ga.

May 17-19—Annual outing, **Carolina Yarn Association,** Carolina Hotel, Pinehurst, N. C.

May 23-24—Annual convention, **American Society for Quality Control,** Hotel Cleveland, Cleveland, Ohio.

June 18-22—Annual meeting, **American Society for Testing Materials,** Chalfonte-Haddon Hall, Atlantic City, N. J.

June 21-23 — Annual convention, **Southern Textile Association,** Mayview Manor, Blowing Rock, N. C.

July 16-22—Textile portion, **Gordon Research Conferences,** sponsored by American Association for Advancement of Science, Colby Junior College, New London, N. H.

September 10-14—Sixth **National Instrument Conference and Exhibit,** Sam Houston Coliseum, Houston, Texas.

Oct. 4—Sixth annual meeting, **Carded Yarn Association, Inc.,** Carolina Hotel, Pinehurst, N. C.

Oct. 17-19—Annual convention, **American Association of Textile Chemists and Colorists,** Hotel Statler, New York, N. Y.

Oct. 18-19 — Annual meeting, **North Carolina Cotton Manufacturers' Association,** Carolina Hotel, Pinehurst, N. C.

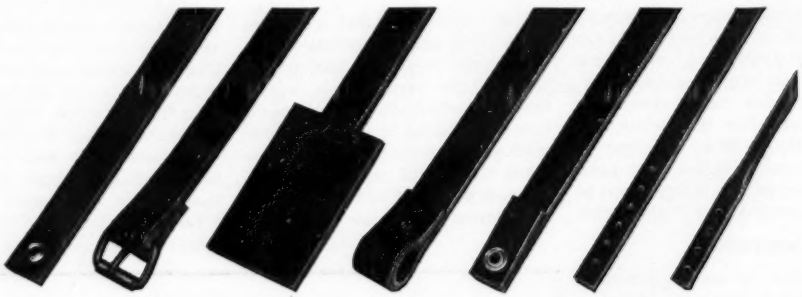
Nov. 8-9—Annual meeting, **Textile Research Institute,** New York, N. Y.

JACOBS ENGINEERED

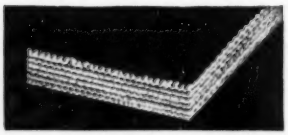
Rubberized Fabric Straps

STEP UP LOOM PRODUCTION

The JACOBS line of rubberized fabric loom strapping is unequalled for strength, long life, and resistance to oil and heat. We can still offer immediate delivery in any width or shape. Why not order now for your immediate needs and anticipated requirements?



AN ENGINEERED PRODUCT:
Pre-stretched and treated for flexibility. Uniform in thickness. Requires a minimum of adjustment.



Immediate delivery in any width or shape

JACOBS

THE BULLARD CLARK COMPANY

E. H. JACOBS

Northern Division **DANIELSON, CONN.** ● Southern Division **CHARLOTTE, N. C.**

NEW Equipment AND MATERIALS

Ball Bearing Turntable for Cloth Trucks

Designed especially for use in range with scutchers or cloth openers is a new ball bearing turntable for cloth trucks. With this device the trucks can be easily turned to eliminate excessive twist, it is claimed.

The turntable is of rugged construction and turns very freely.

Birch Brothers, Inc., 32 Kent St., Somerville, Mass.

For additional data, request item E-110, using business reply card on page 232.

Duplex Rewinder with 36" Diameter Capacity

Simplicity of design, variable speed drive up to 1500 fpm, compactness, and vibrationless operation are among the features of the new B & S No. 15 Duplex Rewinder.

The machine has hydraulically driven differential rewind shafts, and its air-operated slitters can make strips as narrow as ½ inch. Accurate pressure control between drum and rewind shafts, fully enclosed hydraulic and air piping, and easily accessible controls are other desirable features. For roll widths from 42 to 92 inches.

Bagley & Sewall, 500 Fifth Ave., New York 18, N. Y.

For additional data, request item E-116, using business reply card on page 232.

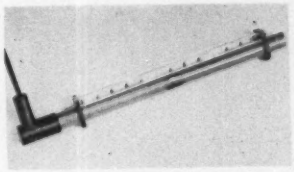
Three-Bar Tricot Knitting Machine

Recently placed on the market was this three-bar tricot machine which has a knitting width of 168 inches. When run as a three-bar unit, it operates at 320 courses per minute; if used as a two-bar machine the speed can be increased to 400 courses per minute.

Other features: direct cloth take-up, fully automatic oil feed lines throughout the machine, adjustable motor base for easy interchange of drive belts.

Robert Reiner, Inc., 550-64 Gregory Ave., Weehawken, N. J.

For additional data, request item E-115, using business reply card on page 232.



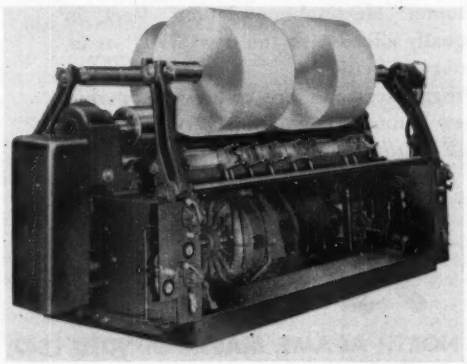
The Oxy Neutralizer "Cold" Bar (American Textile Engineering).

Improved Static Eliminator Does Not Shock When Touched

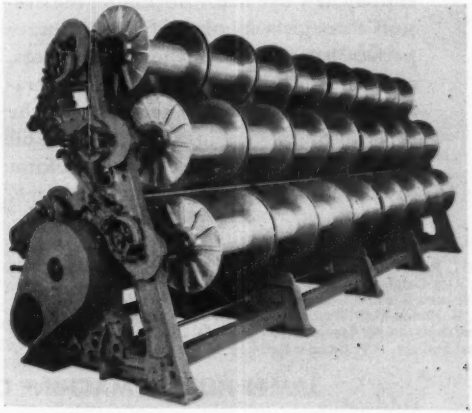
The discharge from the emitter points of an improved static eliminating device does not create even the slightest sensation of electric shock when touched, according to the manufacturer. Consequently, operators of machines on which this equipment is installed can safely touch any part of the device without fear of being shocked.

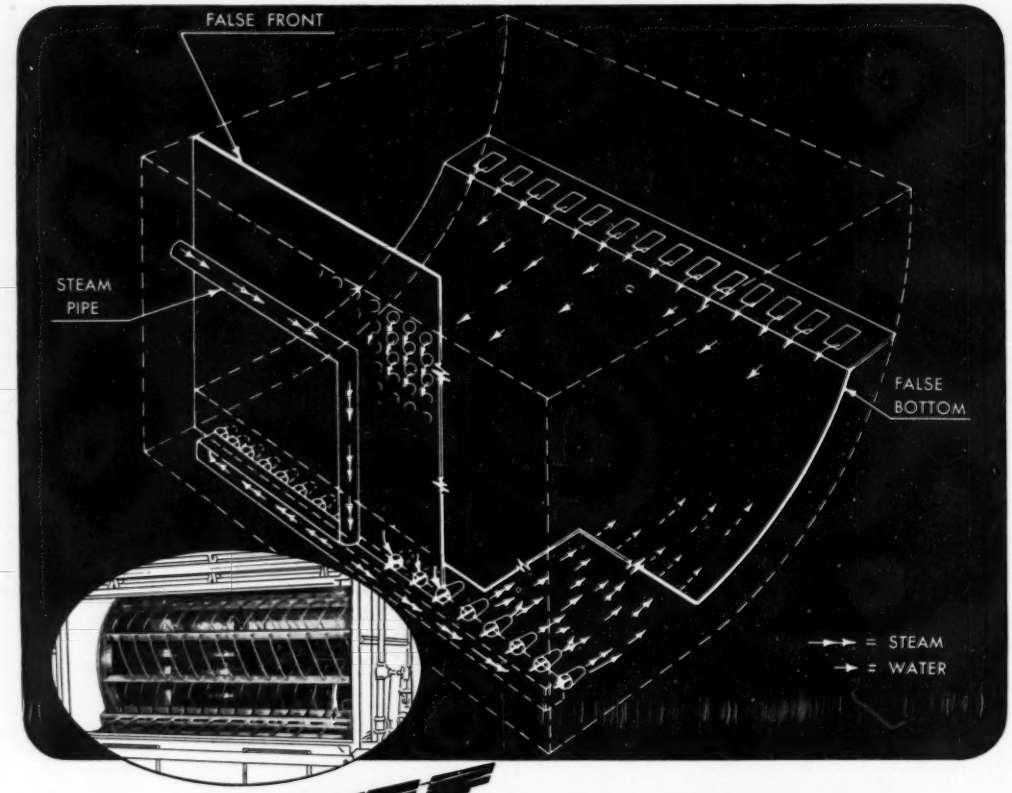
Known as the Oxy Neutralizer "Cold" Bar, it has an outside tube of approximately one inch diameter, with phosphor bronze spring emitter points spaced one inch apart and pro-

No. 15 Duplex rewinder by Bagley & Sewall.



168-inch, three-bar tricot knitter (Reiner).





The HUNTER JET plus the herringbone reel ...for perfect dyeing results

Would you like complete assurance of bright, clear, "on shade" colors? The new Hunter "JET" offers this and more! This entirely new dye kettle distributes the dyestuff through a number of jets to insure perfect balance and blending of colors, making it possible to maintain temperature levels accurately throughout the kettle during the dyeing cycle and boil-off period. The results are more uniform dyeing, a better product and less spoilage.

And then, try the new Hunter Herringbone Hump Reel. This unique design eliminates slip, chafe marks and channeling. It assures effective opening for everything from 7 oz. knit goods to 32 oz. Meltons. The new Hunter Herringbone Hump Reel is equally effective in the new "JET" or in your old kettles.

Progressive mills are cashing in on this new Hunter combination. *Write today for full details and specifications.*

D. L. Raedel, 1936 West Lake Street, Chicago, Ill.
S. Alex Dalghren, Ivyland, Bucks County, Pa.
J. Everett Burdick, Grayson Lane, Newton Lower Falls, Mass.
E. G. Paules, 1762 West Vernon Avenue, Los Angeles, Calif.
Rudel Machinery Company, Ltd., Canada
Carl Endlein, 1734 Candler Building, Atlanta 3, Georgia

Hunter

JAMES HUNTER MACHINE CO., NORTH ADAMS, MASS. FOUNDED 1847.

jecting one half-inch from the tube. For machines where material being neutralized might, because of decreased tension, fall upon the points or just touch them, a model is available with the points protected by Lucite shields mounted on each side of the neutralizer bar.

The bar is energized by high voltage alternating current from a transformer. The equipment is so designed as to have extraordinarily high impedence in order to limit the current flow in the secondary to a point far below the danger level so that even an electrician or mechanic touching the open end of a connected transformer cannot be hurt by the shock.

A complete line of brackets is available for mounting the bars on the various textile machines where static electricity is a detriment to processing.

American Textile Engineering Inc., Arlington, N. J. (representatives in the United States and Canada for Herbert Products Incorporated).

For additional data, request item E-107, using business reply card on page 232.

New Printing Color

A bright blue shade of red, Calconyl Red B Single Solution, is recommended for cotton printing.

Said to be different in chemical nature to similar color types now on the market, the new red is reported to assure economy, good printing properties, and a high degree of stability in storage. Calconyl Red B is an azoic dye available in either double or single solution.

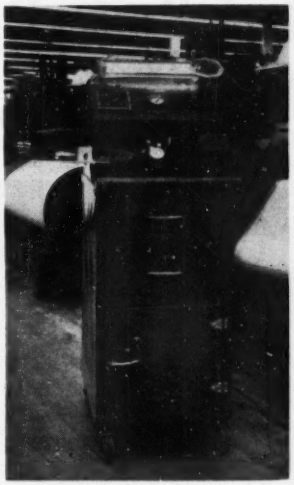
Calco Chemical Division, American Cyanamid Co., Bound Brook, N. J.

For additional data, request item E-102, using business reply card on page 232.

Thread Friction Tester for Control of Tension

An instrument known as the "Tension-Rite" is being used in mill laboratories, weave rooms, and other departments for such purposes as measuring shuttle tension, adjusting shuttle tension to predetermined standards, and measuring changes in tension in yarn being drawn off packages such as cones, tubes, etc.

According to J. Raymond Fish, Sr., inventor of the thread friction testing device, savings up to 300% in machine parts and supplies have been effected through use of the "Tension-Rite" in mills where parts were unnecessarily replaced when actually shuttle and other tensions in processing were at fault. Over 150 single shuttle looms can be checked with the device in eight hours, it is claimed.



"Tension-Rite" thread friction tester developed by J. Raymond Fish, Sr.

Savings up to 100% are said to be obtainable in quilling, winding, handling, and battery hand costs by using the instrument to determine the largest package practical for use in the mill.

Safe, economical use of higher than usual machinery speeds is also made possible by proper utilization of the tester, according to reports.

Since the instrument is portable, much time is saved by bringing the machine to the most advantageous place for making the tests.

Mrs. Stella A. Fish, Wm. R. Barringer Hotel, Room 810, Charlotte, N. C.

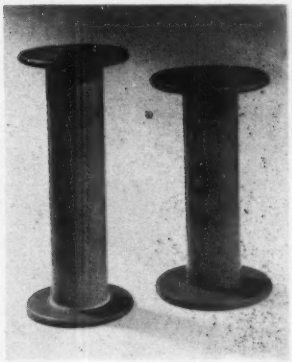
For additional data, request item E-114, using business reply card on page 232.

All-Bakelite Twister Bobbin

An all-Bakelite twister bobbin now on the market is designed for high speed operation. It is reported that this bobbin can be subjected to frequent steaming without the danger of distortion or change in bore.

Made with Bakelite barrel, Bakelite head and inset molded Bakelite bushings, this new Mack bobbin is said to completely eliminate the need for reboring.

The unit is available with Bakelite barrels of several wall thicknesses and a wide range of diameters. Bushings are press fit and cemented into the barrels.



Bakelite twister bobbins (Allentown).

For greater economy and strength where steaming is not required, this bobbin in the same basic construction is supplied as a winder-spinner bobbin with vulcanized fiber heads. These bobbins can be manufactured with or without felt washers to prevent yarn trapping.

Allentown Bobbin Works, Allentown, Pa.

For additional data, request item E-104, using business reply card on page 232.

Molten Metal Machine for Continuous Vat Dyeing to be made by Rodney Hunt

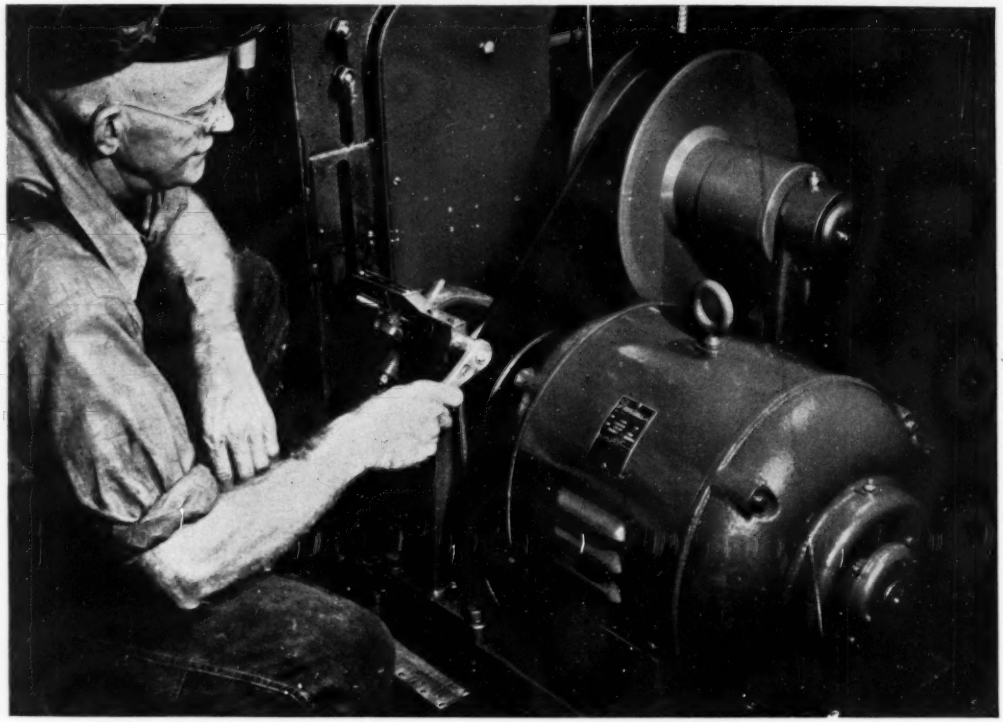
The "Standfast Molten Metal Machine" for the continuous vat dyeing of cloth (described in detail on page 173 of the June 1950 issue of TEXTILE INDUSTRIES) will be manufactured by Rodney Hunt Machine Co. for sale in the United States and Canada, according to a recent announcement from Rodney Hunt.

An interim agreement has been reached with Standfast Dyers and Printers, Ltd. of Lancaster, England,

(Continued on page 214)

REEVES Vari-Spin Drive . . .

by far the quickest way to change cylinder speeds



To change speeds, simply turn a screw

- **Eliminates downtime and troublesome pulley changes.**
- **Speed changed without stopping the machine.**
- **Speed changes *always* immediate and positive.**
- **Full lubrication assures free-moving parts.**
- **Speed setting is accurately maintained.**
- **Compact—nests into narrow aisles.**
- **Uses any standard constant speed motor and only one belt.**

Mills report outstanding results with this new simplified drive . . . the minimum of ends down at the highest possible production rate!

Speed adjustment with the REEVES drive is stepless and infinite within its range—2½:1. This wide range covers operating speeds for all yarn sets. Slightest speed changes can also be made to compensate for excessive tension and for humidity or temperature variations.

The REEVES drive is so positive that returns to previous cylinder speeds within a fraction of an rpm are secured. The design is so simple that installation and maintenance are quick and easy. Get complete information. Write today for Vari-Spin Bulletin 161A-N.

accurate · variable
REEVES *Speed Control*

REEVES PULLEY COMPANY • COLUMBUS, INDIANA
Recognized Leader in the Specialized Field of Speed Control Engineering

Sucker Only Once

"Once a sucker is enough, but to be a sucker twice is too much for me. . . . can fly a kite in Russia for all I care. . . . "

NAME WITHHELD

► The devil won't like this substitution.

Neps, Neps, Neps

" . . . . appreciate receiving a copy of 'A Review of Literature on Neps' as mentioned. . . . "

S. F. HOLUJ
Wool Combing Corp. of Canada
Galt, Ontario

► TI has published much on neps, but has few reprints of the articles. Consult your annual Index (distributed with each December issue) and order from any of several sources. Readers not familiar with such methods of securing technical articles, write for full instructions from TI.

Textile Education: PTI is Flexible

"In your News in Brief section on page 79 of the March 1951 issue there appeared the following statement:

> " '**Textile Education—Technologists or Technicians.** Educators in the textile field are questioning the sagacity of the current trend toward more and more degree granting textile schools. There is crying need for both vocationally trained textile technicians and textile technology degree holders. However, educational facilities for the short diploma granting courses are disproportionately small compared to college level textile schools.'

"I should like to point out that the flexibility of our operation as a privately controlled school makes it possible for us to perform both the types of educational programs efficiently in one institution. We have not discontinued our diploma program as, I believe, all other college grade textile schools have done.

"We offer short courses for college graduates, special courses for employees of textile companies or governmental agencies assigned to us, and other courses may readily be arranged upon sufficient demand to warrant presenting them. All this is in addition to our several four year degree programs and our evening school certificate courses."

BERTRAND W. HAYWARD
Director
Philadelphia Textile Institute
Schoolhouse Lane
Philadelphia 44, Pa.

Shorts and Remnants

Physical Textile Testing

Since publication of "Physical Textile Testing" by Mary Jo Wesson, in our March issue, "we wuz swamped" with requests for reprints.

TI's editors have been unable to handle all of the requests as promptly as usual, so if your inquiry receives a tardy answer, please bear with us.

Some Comments from Readers

". . . best treatments of laboratory testing procedures that has ever been published . . . splendid job in producing this . . . would like to get 24 reprints. . . ."

". . . proved interesting indeed . . . will be of great help to members of the staff. . . ."

". . . most informative and is most complete discussion of the physical testing of textiles with which we are familiar . . . two or three copies be sent to us when available in pamphlet form. . . ."

". . . if as many as 24 copies are available, please forward. . . ."

". . . never before have I seen such a complete and exhaustive article . . . would like to have six reprints. . . ."

". . . Miss Wesson did a very thorough job . . . want half dozen reprints, or original copies of the manual. . . ."

". . . 'Physical Textile Testing' is very excellent work and we would like to have five prints for our laboratories and three prints for some of our key personnel. . . ."

Some of the Mills Requesting Reprints

(The following mills are only some of those which requested reprints of "Physical Textile Testing." Every mail brings letters from other plants.)

Victor Monaghan
Harrisville Co.
Continental
Stehli
Hockmeyer
Synthetic Yarn
Dominion Woollens
Jefferson
Beaunit
United Rayon
Shelton Looms
Lorraine
Verdun Mfg.
Manchester Finishing
Fieldcrest
Canadian Cottons
F. W. Poe
Muskogee
Washington Mills
Narrow Fabric Co.
Canadian Celanese
Payton Mfg.
Collins & Aikman
Pepperell

Bibb Mfg.
Spartan
Synthetic Fibers
Anglo-Knit
Dionne Spin
Fairforest
Arista
Union Wadding
Dunson
W. S. Libbey
Hannah Pickett
U. S. Rubber
Sidney Blumenthal
Wamsutta
Callaway
C. H. Masland
Nye-Wait
Cosmos Imperial
Powdrell & Alexander
Seminole
Nashawena
Canton
Grout's Ltd.
Burlington

Dan River
American Thread
Star Woolen
Hilados del Norte
Ansonia Mills
Chicopee (Lumite)
Union Buffalo
Barre Wool Combing
United Merchants
Bernside
Columbia
Erlanger
Loumac Combing
California Cotton
West Boylston
Bruck
Associated Textiles
Gastonia Combed
Goodyear Clearwater
Clark Thread
Pacific
Huntsville
Postex

Cannon
Montreal Cottons
Dixie Mercerizing
Hathaway
Courtaulds
Swift Mfg.
F. C. Huyck
Jaunty Fabric
Drayton
Johnson & Johnson
Duplan
Goodall-Sanford
Blue Ridge
Erwin
Farmac
Marion Mfg.
Gaffney Mfg.
R. K. Laros
Z. B. Yarn Cone
LaFrance Inds.
Shelby Cotton
Concord
January & Wood
Newmarket Mfg.

(Reads like the American Album of Familiar Mills)

For Reprints: As the foregoing indicate, the article was a great success from the viewpoint of our readers. Mary Jo is entitled to wear feathers (and orchids) in her hat. And West Point is to be complimented on this outstanding manual.

The 40-page story is being made into a booklet with suitable cover (and pocket with tab for filing future articles on the same subject). We think you will like it.

Available in conjunction with new, renewal, or extension of your present subscription to TI, three years for five dollars; or it may be secured outright without a subscription for two dollars per copy.

Uniform Length

Features like uniform length make Textile Spring-Beard Needles outstanding for superior knitting results. Check two or a hundred Textile Needles and you will find they are exactly the same from butt to beard.

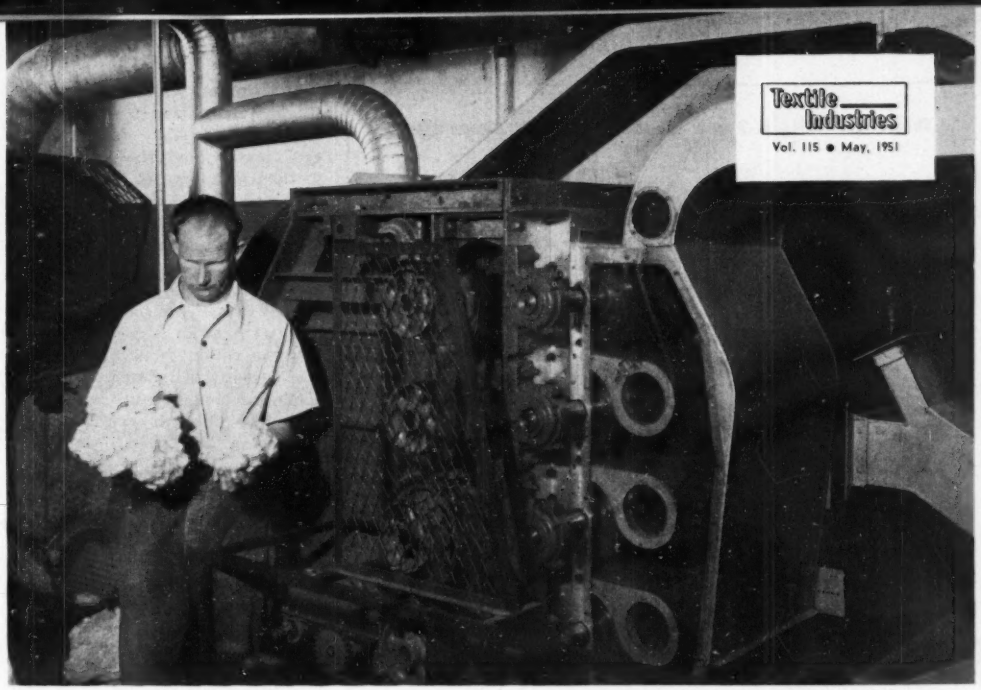
Uniform length is only one of the advantages you get in Textile Spring-Beard Needles. A special steel formula, superior tempering, and Textile's quality controls—automatic and electronic—make the difference in better hosiery fabrics, bigger profits.

TEXTILE MACHINE WORKS, READING, PENNA.

Textile

SPRING-BEARD NEEDLES

For Full Fashioned and Warp Knitting



EXPERIMENTAL size cotton opener installation at Southern Regional Research Laboratory.

A performance report on

The SRRL-Type Cotton Opener

THE WIDESPREAD adoption of machine picking, which produces cottons of higher trash content, together with the normal supply of low-grade hand-picked cottons, has emphasized the need for new and improved methods of cleaning at textile mills. To meet this need the Southern Regional Research Laboratory has developed a machine for opening and fluffing up cotton to enable better cleaning by equipment already in the mills. The design principles, engineering features, and performance data of the new opener are presented.

By RALPH A. RUSCA and RAY C. YOUNG

Southern Regional Research Laboratory[1]
New Orleans, Louisiana

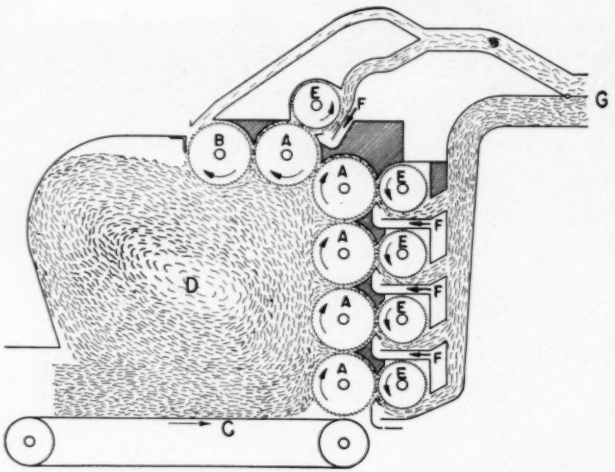
EXCLUSIVE

THE RAPIDLY increasing adoption of mechanical methods of harvesting cotton is of real interest to the textile industry. Machine-harvested cotton is appearing in the mills in large quantities. An estimated 1.5 million bales were received in 1950, compared with 750 thousand bales in 1948. This means that although the cotton crop decreased about one-third between those years, the number of machine-picked bales doubled. There is little doubt that this trend will continue. The Agricultural Labor Bureau of San Joaquin Valley predicts that cotton picking in California will be completely mechanized within 5 years. Moreover, should a national emergency develop, the inevitable shortage of farm labor and the demand for increased cotton production will force even more widespread use of machine harvesting.

The textile industry is closely

[1]One of the laboratories of the Bureau of Agricultural and Industrial Chemistry, Agricultural Research Administration, U. S. Department of Agriculture.

How the SRRL-Type Cotton Opener Operates



The new SRRL cotton opener was evolved from a phase of the Laboratory's wartime research in which a high-capacity machine was developed for cutting short staple lint cotton into lengths suitable for purification, thus insuring an adequate supply of high-grade cellulose for smokeless powder. A part of the cutting equipment was a feeder unit capable of opening and feeding more than 20,000 pounds of cotton per hour. After the war, three years of continuous experimentation went into converting the feeder into a practical opening machine for the textile industry. Changes were made in the original equipment which eliminated fiber damage, a new system of doffing was invented, and a lint duct system was developed specifically for textile applications.

The design of the SRRL-type opener is based on the principle of loosely restraining a large mass of cotton, imparting momentum to the mass, and then plucking out small tufts of fibers from the mass at a rate which avoids fiber damage and nepping of the cotton. Essentially, the opener consists of 5 to 10 toothed cylinders (A) arranged one above the other and rotating in the same direction. At the top of these cylinders an additional "kicker" cylinder (B) with heavy teeth is offset horizontally. Cotton is fed on a conveyor belt (C) into the machine where it forms a rapidly revolving soft roll (D) between flat sides. Small tufts are extracted from this roll by the cylinder teeth, and these tufts in turn are removed by means of an original doffing system that uses licker-in type cylinders (E) in combination with a slight air suction (F). The air serves a secondary purpose in conveying the cotton to the next process through a suitable duct (G).

The unique doffing apparatus of the opener has potential use in other machines handling short fibrous materials. It is currently being investigated by a manufacturer of cotton ginning machinery for this latter application.

following this development because it is recognized that cotton picked by mechanical strippers and spindle type machines contains more trash than does hand-picked cotton. While improvements are being made in turning out cleaner lint at the cotton gin, much remains to be done at the mill.

As a part of its research program to increase the utilization of cotton, the Southern Regional Research Laboratory initiated work to develop or improve equipment and methods for cleaning mechanically harvested and other trashy cottons at the textile mill. The first phase of the project was to devise a means to enable better cleaning by equipment already in the mills. The SRRL cotton opener is a result of this research.

Description and Operation of Commercial Opener. The commercial-size opener designed for the textile industry has five toothed cylinders, 34 inches wide. It covers a floor space roughly 5 feet wide and 8 feet long, and has a rated production of 2000 pounds per hour. Power consumption is about 15 horsepower, exclusive of the air suction fan. From 2500 to 3500 c.f.m. of air is needed to convey the cotton from the opener; the larger-size standard textile condensers are usually capable of providing the air without any changes in fan speeds.

The saw cylinders are made up sandwich-fashion of 12-inch diameter standard cotton gin saw discs and 11 9/16-inch diameter spacers of "Masonite" or similar material, assembled on a shaft. The spacers may be 3/16 or 3/32-inch, or even less if desired. Clearance between the tips of the teeth of adjacent saw cylinders is held to 1/16-inch. Recommended speeds for these cylinders are 300 to 500 rpm for cottons up to 1-inch staple length, and 300 to 400 rpm for cottons longer than 1 inch. Higher speeds than those recommended may result in increased neps when the opener is used in connection with heavy cleaning.

The doffer cylinders are made of Number 1 rayon wire spiral wound on cast iron or steel pipe. Their speed is twice that of the saw cylinders, plus 100 rpm. Excessive doffer speeds consume extra power and needlessly "work" the cotton.

The optimum location for the opener in a mill is probably at the end of the feed table from the blending hoppers. The opener is not designed to process cotton directly from the bale; however a conventional hopper feeder ahead of it is all that is needed.

Tests of the cotton opener were conducted with a pilot-plant-size machine with a production rate of 600 to 800 pounds per hour; the shorter cottons processed the faster.

No Effect on Staple Length. Although the cotton opener is a high-capacity machine, it does not affect staple length. Both Suter-

Webb and Fibrograph[2] arrays were made on samples from a series of tests planned to show up any possible fiber damage; the cotton was passed through the opener up to five times. As shown in Table 1, there is no difference in fiber lengths or coefficients of variability between the raw stock from the bale and stock processed through the opener.

To determine if the opener would cause fiber damage as it would be used in mill practice, five commercial cottons covering a range of staple lengths from ¾ to 1 9/16 inches were made into picker laps, processed without the opener and with the opener added in the line. The data in Table 2 reveal that the opener caused no damage to the cottons.

All of these tests were run with the opener equipped with cotton gin saws. During the 3-year period of research on the opener, however, a wide variety of sizes and shapes of teeth were experimented with. Constructions ranging from needle-pointed, leather-backed teeth to heavy licker-in wound wire were tried. Several of these proved worthwhile for textile applications. The inherent flexibility of design of the opener is such that it can be tailor-made to suit mill requirements as to the degree of openness of the stock, or the production rate. The production rate decreases as the cotton is more thoroughly opened. Tables 3, 4, and 5 show the results obtained with the opener, using three types of cylinders A.

The effect of the opener equipped with standard-spaced (3/16-in.) gin saw cylinders on processing waste and product quality is presented in Table 3. The trash in the finisher picker lap was determined by the Shirley Analyzer[3], yarn uniformity by the Uster yarn evenness tester, and yarn grade by visual comparison with ASTM Cotton Yarn Appearance Standards. The grades reported are the average of the opinions of three persons. Waste percentages are based on the net weight of stock fed to each process.

[2]The mention of trade products or companies does not imply that they are endorsed by the Department of Agriculture over similar products or companies not mentioned.

Opener-Picker Room Layout

at Southern Regional Research Laboratory

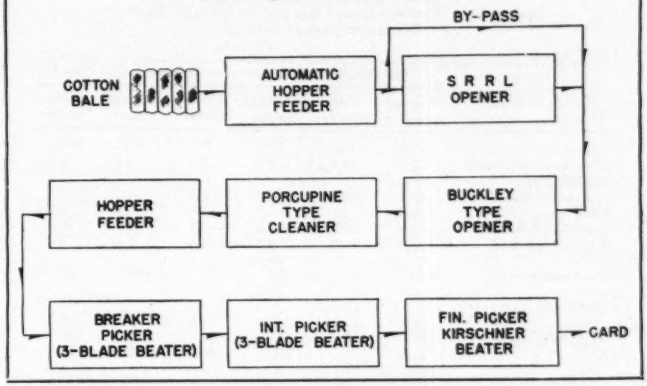


TABLE 1

Effect of the SRRL Cotton Opener on the Length and Strength of Fiber

Test Condition[1]	Upper Quartile Length[2]	Mean Length	Coef. of Variation	Strength[3]
	(in.)	(in.)	(%)	(lb./in.²)
Raw stock	1.21	1.00	30	77,800
Opener 1	1.24	1.02	30	80,300
Opener 2	1.24	1.01	32	79,300
Opener 3	1.24	1.03	30	78,000
Opener 4	1.24	1.02	30	78,804
Opener 5	1.24	1.01	32	77,500

[1]Stoneville 2B, 1-1/16 in., LM cotton.
[2]Determined by Suter-Webb fiber array.
[3]Determined by Pressley method.

TABLE 2

Fiber Data on Representative Cottons Processed Through the SRRL Cotton Opener
S x P, 1-9/16 in., 1-1/2

Finisher Lap	Upper Quartile Length[1]	Mean Length	Coef. of Variation	Maturity[2]	Fineness[3]
	(in.)	(in.)	(%)	(%)	(Micrograms/in.)
Without opener	1.56	1.34	25	92	3.2
With opener	1.57	1.34	26		
		Stoneville 2B, 1-1/16", LM			
Without opener	1.17	.92	35	76	4.2
With opener	1.18	.92	36		
		Deltapine 15, 1-1/16", LM			
Without opener	1.21	.98	31	87	4.3
With opener	1.21	.99	31		
		Rowden, 31/32", SLM			
Without opener	1.05	.85	32	85	5.2
With opener	1.03	.82	35		
		Indian, 3/4", S			
Without opener	.70	.56	29	93	8.2
With opener	.70	.57	31		

[1]Determined by Suter-Webb fiber array.
[2]Determined by sodium-hydroxide method.
[3]Determined by weight-fineness method.

Less so-called waste is removed when the cotton is processed through the opener, and the finisher picker lap is cleaner. The difference in waste is largely due to less spinnable fiber being found

TABLE 3

Effect of the SRRL Cotton Opener Equipped with Standard-Spaced Gin Saw Cylinders on Processing Waste and Product Quality[1]

Textile Product	Waste					
	Cotton No. 1[2]		Cotton No. 2[3]		Cotton No. 3[4]	
	Without opener	With opener	Without opener	With opener	Without opener	With opener
	(%)	(%)	(%)	(%)	(%)	(%)
Opener-picker waste	5.7	4.6	5.3	5.9	6.0	5.5
Opener-picker invisible loss	—1.6	—0.8	0.1	0.4	—1.5	—1.1
Card waste	7.0	6.3	9.0	8.4	8.0	6.9
Card invisible loss	—0.4	—0.2	—0.5	—1.3	—1.1	—0.3
Finisher lap trash	2.0	1.0	4.2	3.4	1.6	1.4
			Neps			
Card web neps	100	106	100	105	100	86
			Yarn			
Uniformity-mean dev.	16.9	17.0	16.5	16.6	17.2	17.3
Uniformity-range	105	105	99	100	104	106
Grade	A—	A—	B+	A—	B+	B+
	(lb)	(lb)	(lb)	(lb)	(lb)	(lb)
Count str. prod.	2034	2074	2133	2104	2014	1920

[1]Production rate of 2000 pounds per hour.
[2]Deltapine 15, 1-1/16", SLM, 87% maturity.
[3]Stoneville 2B, 1-1/16", LM, 76% maturity.
[4]Rowden, 31/32", SLM+, rough preparation, 85% maturity.

under the cleaning equipment and the card. Neps in the card web are about the same — differences shown fall within acceptable experimental error.

Table 4 presents the effect of the opener equipped with narrow-spaced (3/32-in.) saw cylinders. More open cotton is provided by this set-up at a sacrifice of about 20 per cent in production and an increased cost for the additional saw blades and spacers. Cotton No. 2 in this table is the same as Cotton No. 3 (Table 3).

Best results with the opener from the standpoint of trash in the picker lap and fiber saving were achieved with a licker-in type cylinder, using Number 1 Woolen Wire spiral wound 15 threads per inch (Table 5). The licker-in type cylinders were also less expensive and more rigid than gin-saw cylinders. But the production rate with this fine-toothed wire was about one-third that of the saws, meaning that one opener would be required for each two pickers. Yarn uniformity data are not available on these cottons because the laboratory did not own a Uniformity Tester[5] at the time the cottons were processed. Sliver uniformity determinations were made with a Saco-Lowell tester.[5]

In testing the cotton opener every effort was made to simulate mill conditions. It should be noted, however, that the results are based on pilot-size operations, and it is well known that experimental results are rarely fully duplicated in commercial practice. To obtain maximum benefits through the application of the SRRL-type opener will necessitate some experimentation by the mills. For example, the settings of the cleaner and picker grid bars may be different for the more open cotton produced by the new opener, and less air is required to convey the cotton and to remove maximum trash. Elimination of some conventional opening equipment should be possible, and is desirable where several machines are in tandem. Pressure on the picker horseheads must be greater than customary. But no major organization changes are involved; and experience is soon gained in the proper operation of this new textile processing machine.

The economics as to which type of saw cylinder gives best results depends upon the individual mill. Factors such as grade and type of cotton, mill organization, production rate, and final textile product should be considered. Generally speaking, the higher the quality of end product, the finer the tooth.

Also a question of economics is the highest grade of cotton on which it is worthwhile to use the opener. The machine was developed primarily for cottons of Strict Low Middling grade or lower, but it is an excellent blender and some mill operators have expressed the opinion that this feature makes the opener valuable for the higher grade cottons.

The SRRL-type cotton opener is commercially available. Machinery manufacturers producing the opener, or who have signified their intention to do so in the immediate

TABLE 4

Effect of the SRRL Cotton Opener Equipped with Narrow-Spaced Gin Saw Cylinders on Processing Waste and Product Quality[1]

Textile Product	Cotton No. 1[2]		Cotton No. 2[3]	
	Without Opener	With Opener	Without Opener	With Opener
	(%)	(%)	(%)	(%)
Opener-picker waste	11.8	10.2	5.0	5.2
Opener-picker invisible loss	—3.3	—1.7	—1.5	0.9
Card waste	14.0	9.8	6.9	6.7
Card invisible loss	—1.4	—1.1	—1.2	—1.4
Finisher lap trash	7.6	3.9	1.6	1.4
		Neps		
Card web neps	100	138	100	106
		Yarn		
Uniformity-mean dev.	16.4	17.2	17.2	17.5
Uniformity-range	104	100	102	106
Grade	B	B+	B+	A—
	(lb)	(lb)	(lb)	(lb)
Count str. prod.	2102	2118	1914	1886

[1]Production rate 1600 pounds per hour.
[2]Deltapine, 1-1/16", GO, dry leaf, weather damaged, 88% maturity.
[3]Rowden, 31/32", SLM+, 85% maturity.

future, include Centennial Cotton Gin Co., Columbus, Ga.; Continental Gin Co., Birmingham, Ala.; Salisbury (N. C.) Iron Works, Inc.[2]

Descriptive literature and engineering information on the opener is available at Southern Regional Research Laboratory, 2100 Robert E. Lee Boulevard, New Orleans, La.

Acknowledgement. The authors wish to gratefully acknowledge the assistance of their co-workers in developing the cotton opener. The research program was under the direction of R. J. Cheatham, Head, Cotton Mechanical Processing Division, and the processing work was supervised by Charles L. Sens and John J. Brown. Physical test data on the fibers and yarns were provided by Dr. Ruby K. Worner, Analytical & Physical Division.

TABLE 5

Effect of the SRRL Cotton Opener Equipped with Fine-Toothed Licker-In Wire Cylinders on Processing Waste and Product Quality[1]

Textile Product	Waste			
	Cotton No. 1[2]		Cotton No. 2[3]	
	Without Opener	With Opener	Without Opener	With Opener
	(%)	(%)	(%)	(%)
Opener-picker waste	8.6	5.8	9.0	4.4
Opener-picker invisible loss	—0.1	—0.5	—0.2	—0.8
Card waste	8.1	7.4	8.5	6.7
Card invisible loss	—0.4	—0.3	0.0	—0.1
Finisher lap trash	4.3	3.4	3.0	1.6
	Neps			
Card web neps	100	95	100	104
	Sliver			
Card sliver, C. V.	3.0	2.9	2.8	2.8
First drawing, C. V.	4.8	4.4	4.4	4.4
Second drawing, C. V.	4.6	4.9	4.6	5.3
	Yarn			
	(lb)	(lb)	(lb)	(lb)
Count str. prod.	2234	2197	1936	1938

[1]Production rate of 600 pounds per hour.
[2]Deltapine 15, 1-1/16", SGO+, 67% maturity.
[3]Deltapine 15, 1-1/16", LM+, 87% maturity.

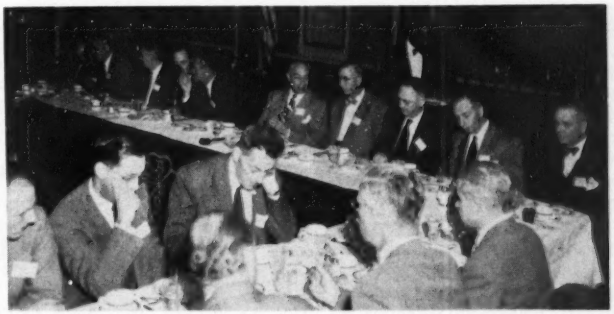
Strengthened Southern Section Planned by Textile Division, ASME

At the national meeting of the Textile Division, held in Atlanta, Ga., in conjunction with the spring meeting of the American Society of Mechanical Engineers on April 1-4, an explanation was given of the plans which have been made to strengthen this division of the society.

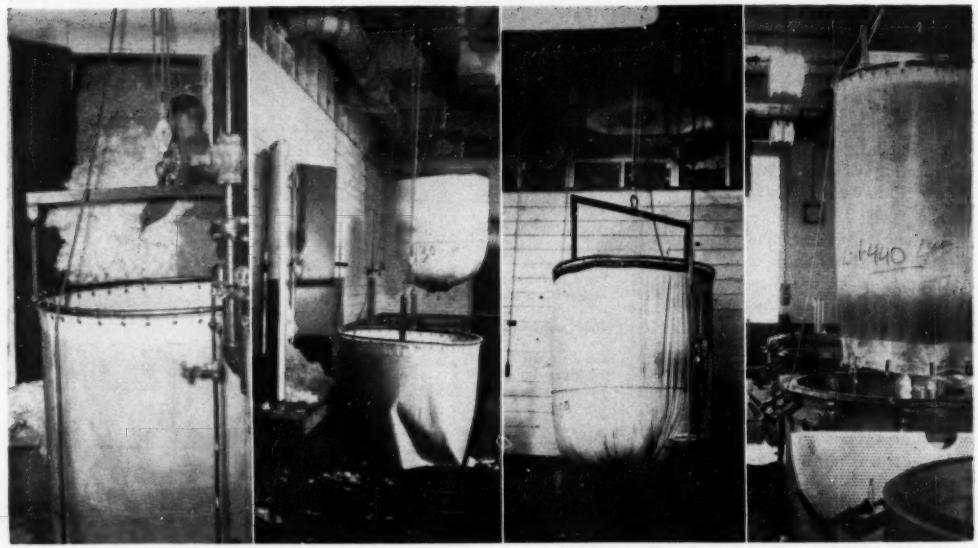
The division has two main methods through which it hopes to make its activities valuable to the textile industry. The first is through the presentation of papers on cost reduction in textile manufacturing, emphasis being placed on plant layout, machinery, labor, quality, and operation methods. The officers of the division are arranging for the preparation and presentations of such papers, information from which will be of value to the industry.

The second method through which the division hopes to improve its service is by the organization of a strong southern section. While the textile industry has been moving south, the work of the Textile Division and its officers have remained in New England, for the most part, and it is now fully recognized that to be effective, the division's activities and certainly a proportionate part of the officers and committee members should be from the South.

Tentative arrangements are now being made to hold a national meeting of the Textile Division in Greenville, S. C., in 1952, at the same time as the Southern Textile Exposition.



At the textile luncheon head table: **Comer Turley,** Pepperell Mfg. Co., Lindale, Ga.; **F. E. Snyder,** West Point (Ga.) Mfg. Co.; **Lyndsey Dexter,** Pepperell Mfg. Co., Boston, Mass.; **R. O. Palmer,** Carlyle Johnson Machine Co., Manchester, Conn.; **Norman Elsas,** Fulton Bag & Cotton Mills, Atlanta, Ga.; **Earl Heard,** West Point (Ga.) Mfg. Co.; **Robert McConnell,** Whitin Machine Works, Whitinsville, Mass.; **Leslie A. Runton,** M. T. Stevens & Sons Co., North Andover, Mass.; **B. B. Peacock,** Whitin Machine Works, Atlanta, Ga.



HOW CONVEYOR BAGS ARE USED to transport scoured wool to dye kettles may be seen in this series of photos. From left to right: (1) bag is lowered to loading level at bin door and filled with stock by operator standing on dock; (2) containing 150 pounds of wool, the bag is elevated to transport level and conveyed along ceiling monorail; (3) on way to dye kettle, loaded bag is weighed on platform type scale which connects by levers to weighing section on conveyor track; (4) bag is transported to unit stock dye kettles where tie cord is loosened and stock is dumped. See schematic diagram at the bottom of the opposite page.

Gloversville Knitting Company's Way of

Handling Wool Stock in Dyehouse

PRODUCTION tie-ups created by space and labor limitations of dyehouse raw stock trucks have been circumvented by a continuous circuit monorail conveyor. Capable of delivering wool stock to any section of the dyehouse, the handling system raises efficiency of modern dyeing equipment.

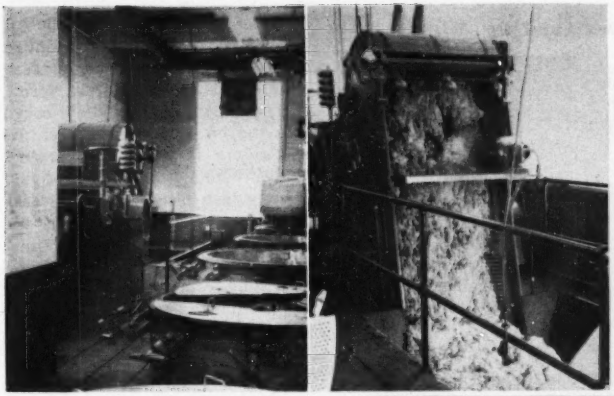
Staff Prepared

EXCLUSIVE

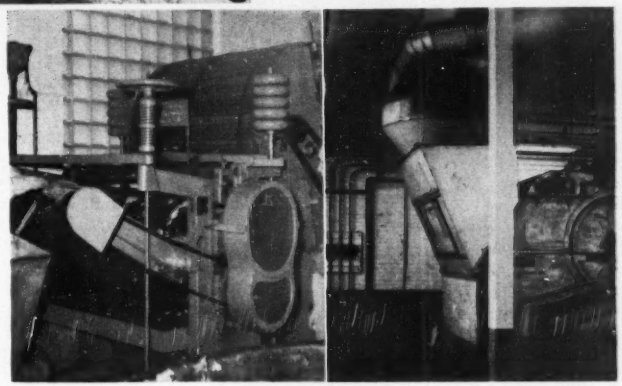
DYEHOUSE materials handling systems can be organized around an existing pattern of equipment, then installed as a secondary expedient to production. However, when the Gloversville Knitting Company revamped their raw wool stock dyeing facilities, intra-dyehouse transportation was given top consideration.

Storage bins, pressure kettles, scales, squeeze rolls, dryer, and auxiliary apparatus were arranged in locations which would capitalize on the maximum potential yield that could be afforded by modern dyehouse equipment in conjunction with a materials handling system. The net result was an in-line production floor plan which utilizes the smallest amount of floor space and man power for the largest possible operational demands anticipated by the mill.

Floor Space Saved. Using a ceiling conveyor to transport raw wool stock filled bags, empty bags, and loaded or unloaded kettle spiders, eliminated all floor trucks. This allowed an effective increase in productive floor space. It also permitted convenient and rapid movement of personnel throughout the



AFTER STOCK IS DYED, the kettle's spider (shown in photo at left above), holding wet compressed wool, is raised by electric hoist and power-conveyed past a switching station of the monorail system to a point directly above a floor pit with built-in feed apron (right photo above). Here spider is relieved of its load and stock dumped into pit for automatic delivery to squeeze rolls and dryer shown in the two photos at the right.



dyehouse. Nearly fifty square feet of valuable work space once had to be sacrificed to the trucks due to their physical dimensions alone. Considerably more space was consumed or made inaccessible by trucks in transit.

Now, a battery of five new Riggs and Lombard pressure dye kettles with a total load capacity of 1800 pounds is concentrated in a minor portion of the dyehouse, leaving sufficient area remaining for a control laboratory and a chemical supply section.

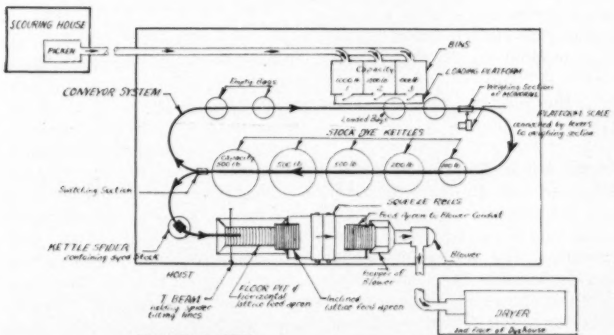
Description. The entire conveyor system, which includes a continuous race-track shaped monorail with a weighing section, switch section, and spur line, traverses more than 140 linear feet in a single floor space measuring only 40 feet by 80 feet.

Three stock bins, each capable of storing 1000 pounds of scoured and dusted wool received from air conduits connecting the scouring and picking department in another building, comprise the first station of the system. At this point wool stock is manually transferred from the bins to any one of four canvas bags suspended from the overhead track. As much as 150 pounds of raw wool can be accommodated per bag.

Bags were fabricated by a Gloversville awning maker, while the five-foot diameter hoops, rings, and braces which support the bag on the conveyor were turned out by the mill's machine shop. The bottom of the bag is constructed with a draw string closure; pulled tight during loading and conveying, loosened during dumping of contents into the kettles.

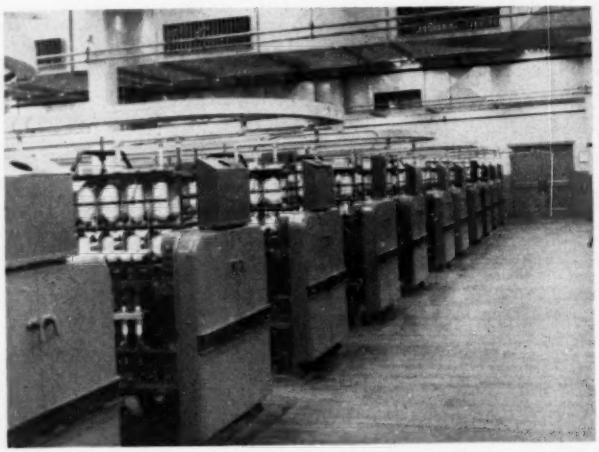
In the loading phase, the lip of the bag is lowered to approximately two feet above the level of a platform extending along the row of bins. An operator standing on the platform finds that loading is facilitated in this manner. When full, the bag is hoisted to its travel position at ceiling height.

While guiding a bag along the monorail, the operator can control its height using the running line



SCHEMATIC DIAGRAM
WOOL STOCK DYEHOUSE CONVEYOR
GLOVERSVILLE KNITTING COMPANY

Spinning Waste Boxes Designed by Mill



HART COTTON MILLS, INC., Tarboro, N. C., have given much thought to good housekeeping and have put into practice several housekeeping aids to make the job easier.

One of the most practical of their devices is a waste box installed at the end of each spinning frame. These boxes were designed at the mill, and the final design shown in the illustration is one that resulted after previous designs showed flaws.

For example. the boxes were first made without a top, and the overhead cleaners, in passing over them blew out considerable fly. Then a top was added, but it was found that the additional trouble of having to lift up the top to drop in waste cut down on the amount of waste collected. Finally, a hole was cut in the top which is large enough to deposit waste but not large enough for the overhead cleaner to disturb it in passing.

Alternate boxes are labeled "Clearer Waste" and "White Waste" so that these two types may be kept separate.

of the block and tackle. First stop is at a weighing section of the track where a load record is obtained without necessitating removal of the load from the monorail since this portion of track is linked to a Howe single beam balance of 500-pound capacity. Twenty feet beyond the scale, and still in the monorail path, is the nearest kettle of the dye battery.

Loading Kettles. Bag contents can easily be deposited in each kettle with no danger of spilling in that the bags are slightly narrower than the kettles. Kettle baskets are also elements of the conveyor system. An eye hook is welded to the top of the central column of each basket or spider so that it can be engaged with a hoist hook when spiders are ready to be moved. After completion of the dyeing cycle, the spider with its compact load is elevated by a Robbins & Myers electric hoist which is manipulated by a hoist controller. A trolley attachment adapts the electric hoist to the monorail.

Drying Stock. The loaded spider is conveyed past a switch track to a spur leading to a squeeze roller furnished by C. G. Sargent's Sons Corporation. The degree of imagination responsible for this handling plan is shown by the use of a 12-foot long and 5-foot wide pit whose sides slope down toward a horizontal feed belt 6 feet below the dye house floor. Surrounded by a safety rail enclosure, the pit automatically delivers the entire cargo of the spider to the squeeze rollers' inclined lattice feed apron.

To discharge the spider's cargo into the pit, opposite sides of the spider are fastened to two steel cables hanging from a steel "I" beam which is bolted to the ceiling. Upon disengagement of the hoist the spider is tilted, tumbling wet stock into the pit. Upon emerging from the squeeze rollers, it is blown to a Proctor & Schwartz dryer rated at 1500 pounds hourly. The dried, processed stock is then blown to an automatic bagger in an adjacent building. Bags are sewn and stored until called for by the spinning mill. The dryer is over capacity, but this is an advantage when running small fancy lots.

Raw Material Saved. Among the advantages accruing from this mill's intra-dyehouse transport organization is an improvement of color quality in their finished knit goods. There is a decidedly less risk of contaminating or specking stock by floor contact in the dyehouse since loading and unloading functions have been cut to the bone.

The special handling of dyehouse floor droppings which was routine in the past is also avoided, thereby deriving added economy of labor and raw materials. Not to be disregarded is the new system's influence upon plant employees. By yielding a cleaner, more orderly dyehouse, the conveyor is actually contributing to employee morale. This eventually will reflect in terms of greater productivity.

Labor Saved. When trucks were abandoned, so was the truck pushing force. The dyehouse now operates with a minimum of overhead and production personnel. With nearly the same labor, present maximum production is 3700 pounds per 8 hours as compared with 2400 pounds in the old dyehouse. The productivity per operative is adjusted to a level satisfactory from management's viewpoint while the work load has been kept invitingly low to the employee.

Electrical Hazards in Textile Mills

No. 2 of a series

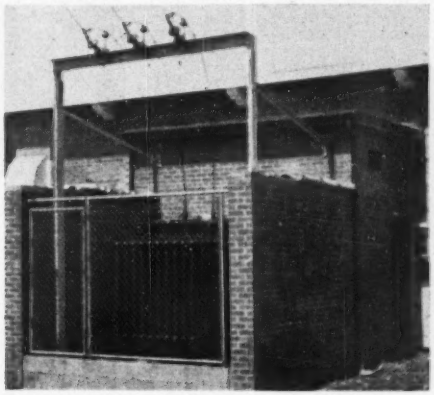
EXCLUSIVE

TRANSFORMERS

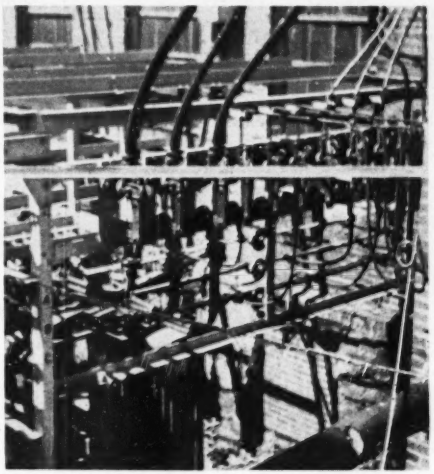
SUB-STATIONS

THE SOLUTION

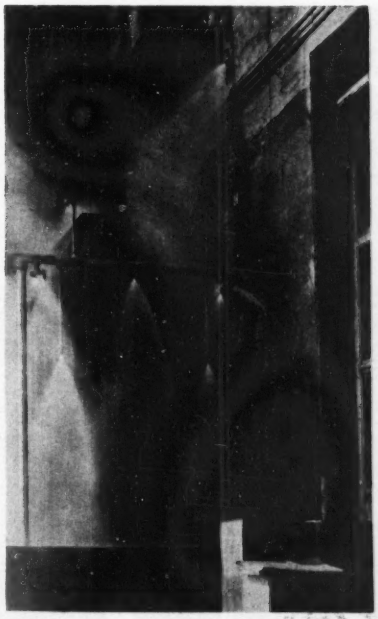
is a properly located sub-station ↓



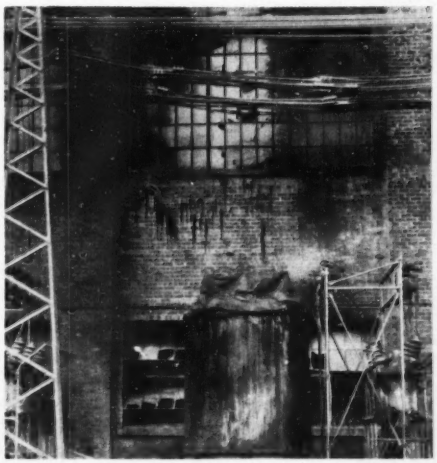
Jammed-up equipment like this ↓



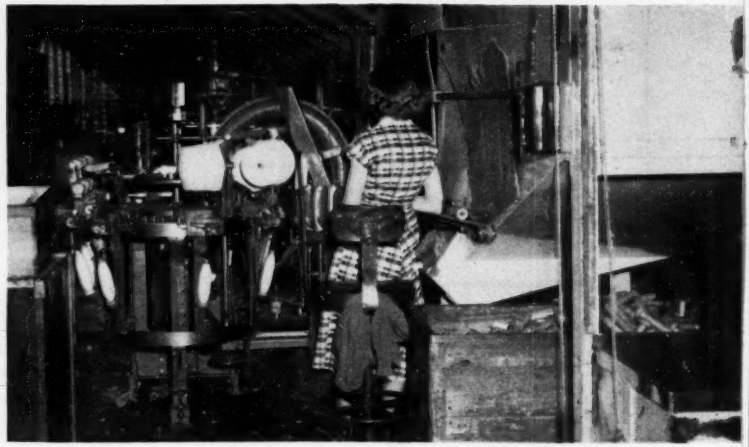
or a sprinkler system ↓



Results in fires like this ↓



Photos courtesy, Factory Insurance Association



PLIED YARN is automatically wound from twister bobbins onto 3° 30′ paper cones by means of Abbott paper cone winders (head end view of one of these machines is presented here; on the opposite page is a photo made from the foot end of the machines). The five-pound packages produced on these machines are, in turn, used as supply packages on subsequent winding operations and in the ball and snake warper creels.

Cone-to-Cone Winding Proves

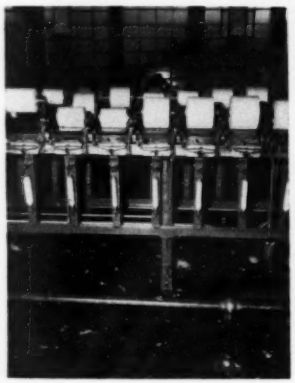
for a yarn mill and

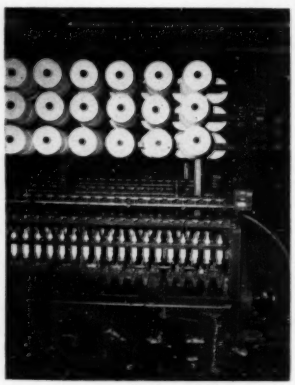
Prepared by a Member of the Staff

BY DEVIATING from the ordinary ply yarn mill procedure of winding from twister bobbins directly to shipping packages, a Georgia cotton yarn mill is not only increasing its profits but also providing worthwhile benefits for its customers.

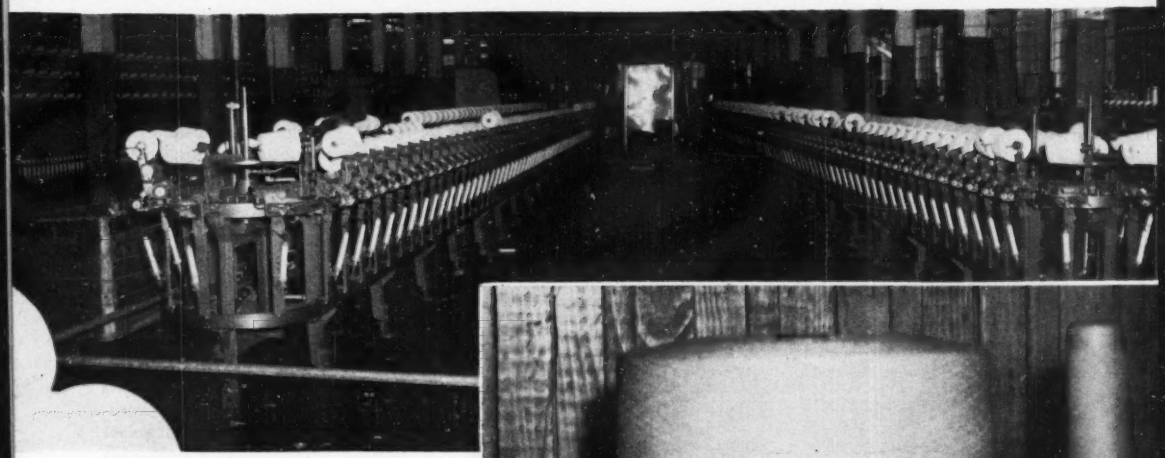
At this mill an intermediate winding process is now employed —plied yarn is automatically wound from twister bobbins onto 3° 30′ paper cones (commonly used for rayon yarns) by means of Abbott paper cone winders. The five-pound packages of yarn produced on these machines are, in turn, used as supply packages on subsequent winding operations and in the ball and snake warper creels.

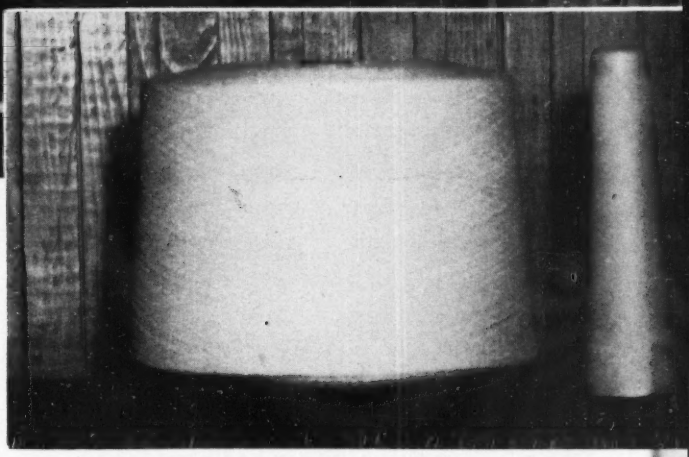
According to the mill management, the cost of the additional winding operation is more than offset by the savings effected. Since the Abbott winders tie the knots automatically, one operative now produces as much as three operatives did formerly with winding machines requiring the use of hand knotters. Also, the use of the five-pound packages, rather than





BOBBINS OF SINGLES YARN from spinning frames are placed on automatic winders (photo at left), and yarn wound onto large five-pound packages built on straight-sided wooden tubes that fit spindles on specially designed twister creels pictured at right.





Profitable

its customers

THIS LARGE PACKAGE OF PLIED YARN is typical of those produced on the automatic winders in the photo at the top of the page. Since a 3° 30′ paper cone (shown at right) is utilized, approximately five pounds of yarn is contained in the package. Below is a Foster Model 102 winder, the creel of which has been modified to accommodate this large package.

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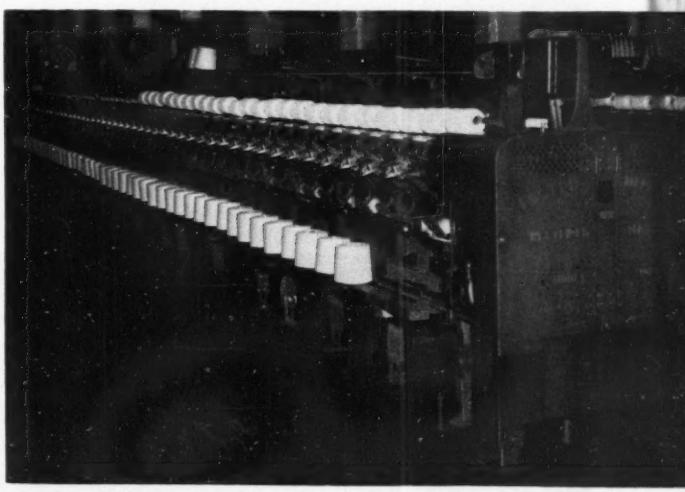
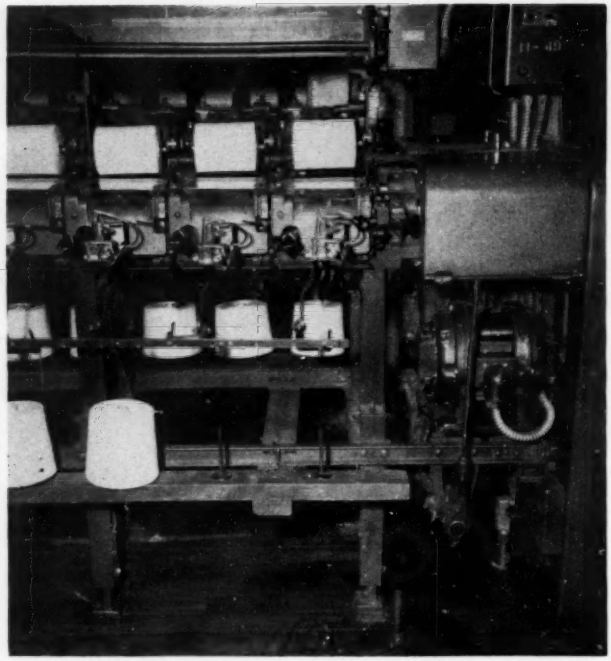
twister bobbins, as supply packages enables operators on subsequent winding operations to tend two and one-half times more spindles. Thus, the total labor cost of the two processes is considerably less than that of winding directly from twister bobbins to the various put-ups.

Experience at the Georgia mill indicates that tension on the yarn is much more uniform when winding from cone to cone than when winding from bobbin to cone. Yarn is wound with the same tension from the beginning of the package to the end; consequently, no rings appear on the bottom of the cones due to uneven tension (formerly when winding from bobbin to cone a ring was evident at the bottom of the cone whenever a new bobbin of yarn was tied in).



Knitting mill customers are said to particularly like this characteristic of yarn so packaged.

At the ball and snake warpers considerable time is saved by using the large supply packages in



MODIFIED CREEL CONSTRUCTION DETAILS can be seen in this close-up view of a Foster Model 102 winder. Note that 2" x 4" boards were used for making supply package supports and cross members. U-bolts were employed to fasten cross-members to machine frame.

the Cocker magazine type creels. The creeling interval has been greatly increased, with the result that the operative has more time in which to observe machine performance and insure production of warps of high quality.

When this change in processing procedure was made and the mill realized that these benefits could be passed along to its customers if they would agree to accept the large Abbott-wound package, a letter was directed to them, setting forth advantages to be derived from the use of this package. It was pointed out that an 8° 4′ cone holds approximately three and one-half pounds of 20s/2 cotton yarn, or about 27,400 yards; whereas the 3° 30′ cone holds approximately five pounds of yarn or 42,000 yards. Response to this letter was gratifying, and now a substantial part of the mill's production is shipped on the 3° 30′ paper cones. Therefore, an additional saving is accruing to the mill since another winding operation is not required for yarn going to customers that have agreed to accept the large package made on the automatic winders.

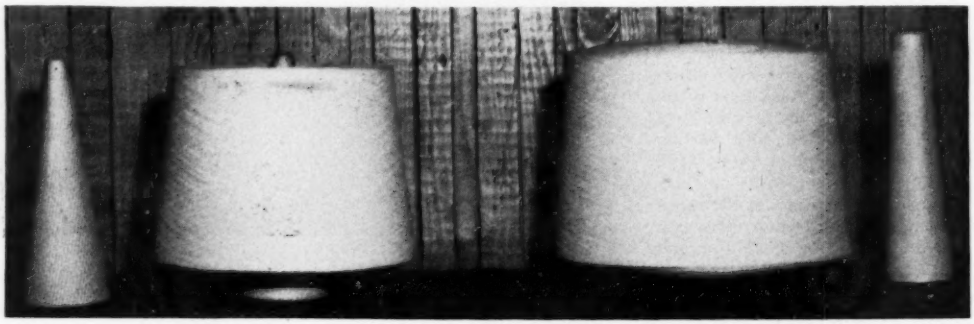
Winder Creels Modified. In order for the large cones of yarn to be used as supply packages on the Foster Model 102 winders, it was necessary to modify the creels as shown in the accompanying illustrations. They were previously designed to accommodate twister bobbins which held only approximately 3 ounces of yarn.

By simply lowering the bobbin peg rods and removing the bobbin boxes, Universal No. 50 winders were also made to accommodate the large supply packages.

Warper Creels Modified. As in the case of the winder creels, the magazine type warper creels had to be modified to accommodate the large packages of yarn. Suitable wooden adapters were purchased from a bobbin manufacturer and fastened on the spindles or cone holders with Allen set screws.

Any weaving mill deciding to accept this large package of yarn would of course find it necessary to follow this same procedure; however, the cost of the change is negligible, and the savings accruing from the first shipment of yarn on the new package will more than pay for itself, according to the mill management.

FOR COMPARISON PURPOSES two packages of yarn are shown here, the one on the left being wound on an 8° 4′ paper cone (like one on extreme left) and the one on the right being wound on a 3° 30′ cone (extreme right).



Reel Saves Wear on Air Hose

Reel keeps hose off floor, provides quick and easy access, and prevents damage to hose due to improper storage.

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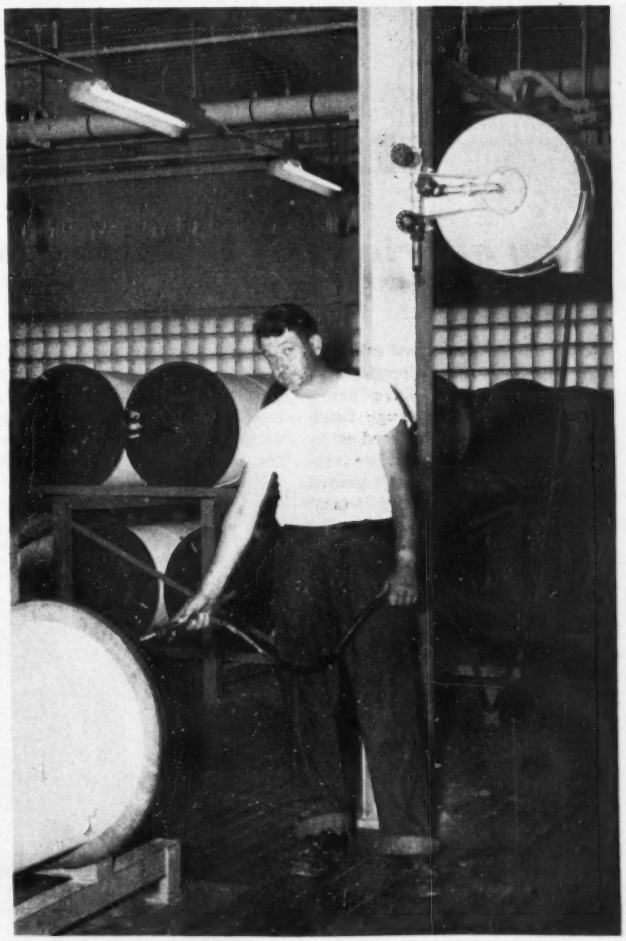
THE PINEVILLE, Revolution, and White Oak Plants of Cone Mills Corporation are now using special reels for compressed air hoses. These reels operate on the same principal as the hose reels used on filling station gasoline pumps. Mounted on upright columns throughout the mill and located at those spots where compressed air is used for blowing down and cleaning, the reels replace the old standard air hoses which were hung on hooks or pegs.

When the hose is to be used, the operator takes hold of the nozzle, which projects from the reel housing, and pulls the hose to the point at which it is needed. While in use, there is no tension on the hose, but a slight pull on it will cause it to rewind back into the housing. It operates much like a window shade. Pull it out and it stays; give it another little pull and it winds back up. Each reel holds 50 ft of hose.

Not only does the use of this hose reel make handling easier for the operator, but it keeps the hose off the floor, where it got most of its rough wear when hanging loose as it did before the reels were installed. Even when a careful operator took the time to loop the hose back around its peg, this method of hanging was harder on the hose than the new reel winding. Hose hung on a peg will soon develop cracks at the hanging point.

The reels, one of which is shown in the illustration, are manufactured by Wayne Pump Co. and A. Schrader's Son. Both put out the same type of reel, and the mills use some of each.



WHILE HOSE IS IN USE, there is no tension on it; however, a slight pull by the operative will cause it to rewind back into the housing.

STOCKING made with broad toe of the type which has to be looped (left). Right, modified toe comes to a point which is included in the seaming operation, thereby eliminating the need for looping.

Looping Eliminated

by altering full-fashioned hosiery machine

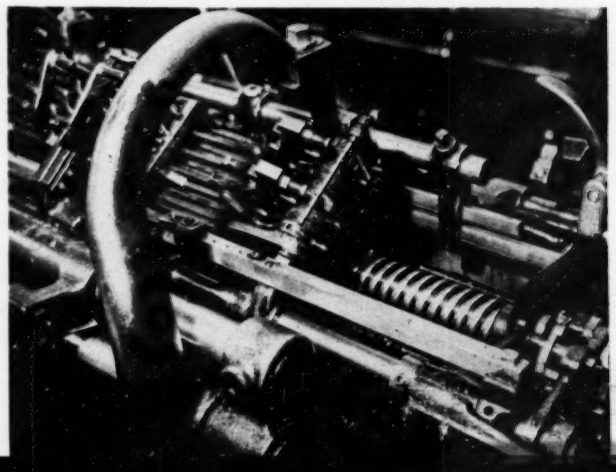
SEVERAL full-fashioned mills are making full-fashioned stockings which do not have to be looped. 26-section 51-gauge Reading machines may be altered easily to make each hose so that the looping operation is entirely dispensed with. Other makes of full-fashioned machines may also be changed to make the "loopless toe;" however comments in this instance pertain only to Reading machines.

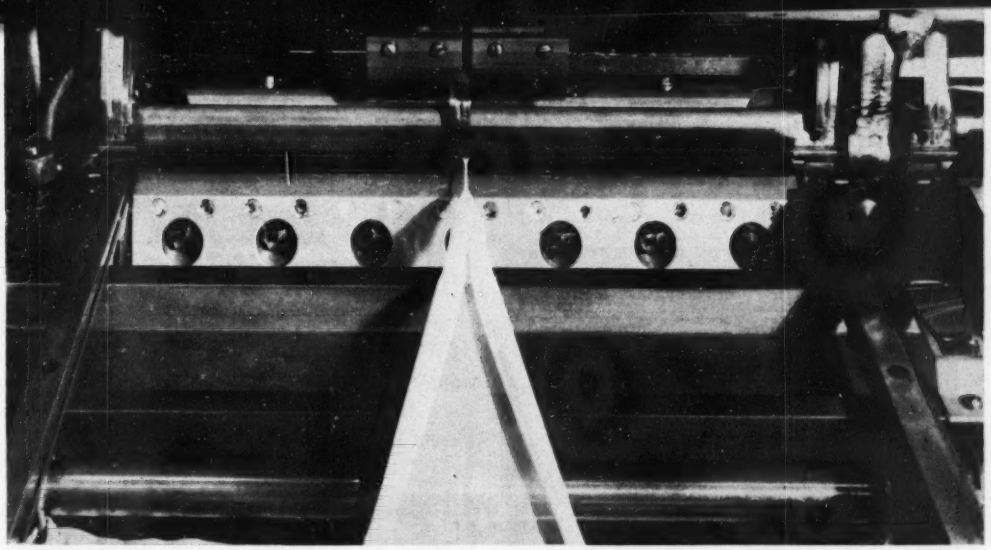
The toe of the stocking is knitted to obtain a narrow portion of fabric of suitable proportions to include in the seam. The "loopless toe" is not new, but the likelihood of a labor shortage has brought forth renewed interest in this type of stocking. There is more than one way to fix the Reading knitting machine to obtain a toe which may be seamed instead of looped.

One way to make the change is to adjust the machine to allow the narrowing fingers to come close together in the center of the sinker head during the knitting cycle. The interval in one instance is 12 needles between narrowing fingers at the end of the stocking (where the toe is closed). This 12-needle width of fabric is rolled in with the seam at the seaming operation.

To actually close the toe, the narrowing action must take place every other course, using the pull-back mechanism. One mill changed

RAVEL-COURSE STOP was installed to permit the carrier travel to go to center of the sinker head without jamming the shock absorber cam. To engage the ravel course stop, the carrier rack is racked out two turns, and the ravel course stop is engaged at that point.





POINTED TOE was made as shown here by having the narrowing action take place every other course, using the pull-back mechanism. This machine formerly made stockings with the toe portion of the fabric 108 needles wide at the narrow point.

Possibility of labor shortage has stimulated interest in "loopless toe." Two methods are described for changing the Reading machine.

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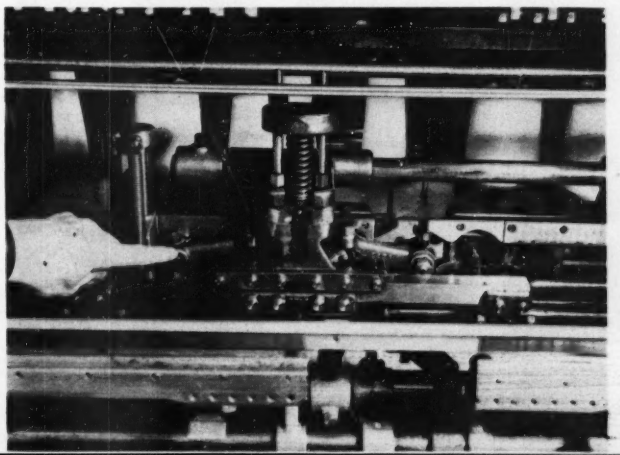
machines which formerly made stockings with the toe portion of fabric 108 needles wide at the narrow point. A ravel-course stop was installed (see illustration) to permit the carrier travel to go to center of the sinker head without jamming the shock absorber cam. To engage the ravel course stop, the carrier rack is racked out two turns, and the ravel course stop is engaged at that point. The thread carrier rack has to be repositioned when the machine operates with the forementioned changes incorporated to make the narrow toe. The ravel course stop was taken from an old model legger, and it was installed to control the carriers used in making the toe.

Attachments are available to make the change another way. Long shock absorber arms may be installed to prevent the shock absorber arms from jamming when the narrowing fingers come close together in the center of the sinker head. When long shock absorber arms are utilized, the thread carrier rack does not have to be repositioned to allow the narrowing fingers to come close together.

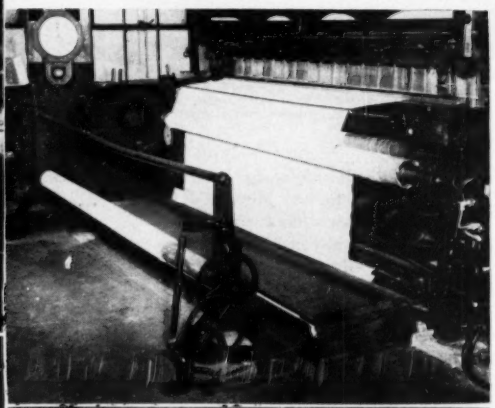
In one mill where the knitting machines were changed to make stockings on which no looping is necessary, looper operatives were absorbed by other departments as they were released from looping department. The machines were changed one at a time, and officials at this plant decided that the looper operatives had much valuable knowledge of hosiery mill practices, wherein they would be of valuable assistance in other departments and in other phases of hosiery manufacturing in the plant. In this instance the looping machines were retained in place, and some stockings are being produced with looped toes.

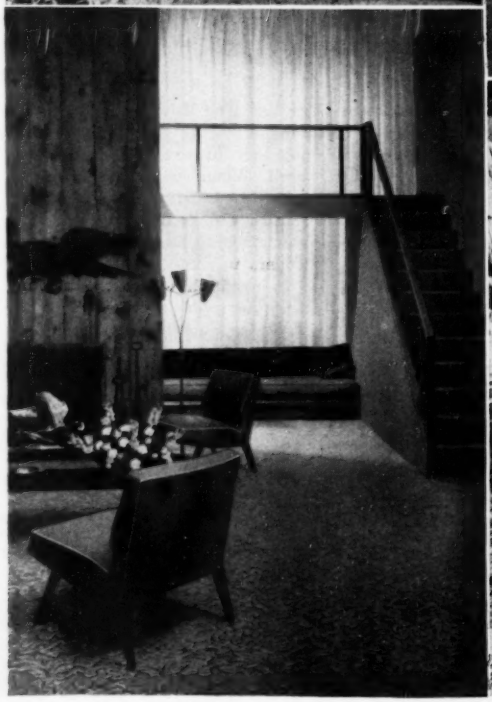
LONG SHOCK ABSORBER ARMS may be installed to prevent the shock absorber arms from jamming when the narrowing fingers come close together in the center of the sinker head. When long shock absorber arms are utilized, the thread carrier rack does not have to be repositioned to allow the narrowing fingers to come together.

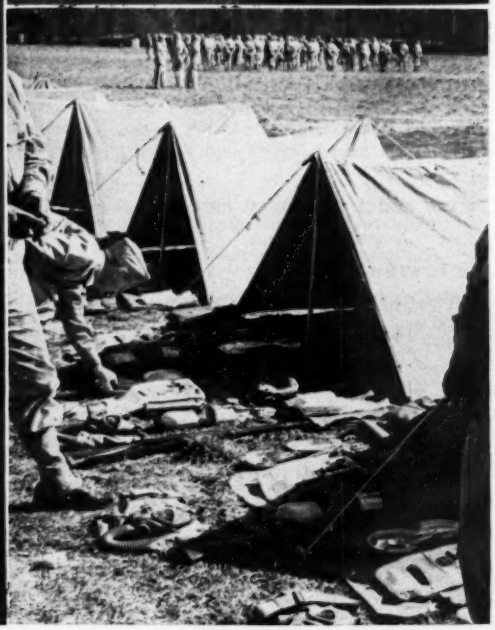


From Carpets --- to Duck---

THE AXMINSTER LOOM was created for the carpet industry. A versatile producer, this machine had infinite variations of textured and colored floor coverings within its scope. Now it also has military duck—an item which scarcely could have been contemplated by its inventor.







in Record Time

A story of Axminster loom conversion from carpets to duck—a critical textile item—at Alexander Smith and Sons Carpet Company.

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EXCLUSIVE

WITH ALL the provoking uncertainties brought on by the national crisis, matters would be vastly simplified for a textile mill endowed with Aladdin's broad power; a genie able to contend with perpetual emergency, able to reorganize the plant at a moment's notice, sensitizing it to current situations.

The case in point is Alexander Smith and Sons Carpet Company. Here, management read the writing on the wall early in the present industrial mobilization. Plans were drawn up for gradual conversion from consumer to military goods until a proper balance of both is achieved. A smooth, coordinated war production program shifted into high gear. There were no layoffs, no labor displacement. Throughout past, present, and future transition, the plans call for peak production. Numerous looms are already on duck. Blankets might be next on the list if their WW II experience is repeated.

The company intends to continue producing as much carpet as circumstances permit. However, carpet looms will very probably be set aside for duck at a rate dependent upon military commitments. The National Production Authority has indicated an accelerated duck procurement schedule. Looms producing duck were frozen effective April 1, 1951. Furthermore, the authority has reserved 80 per cent of duck production for government use. This can mean only one thing —duck shortage. And that's where Alexander Smith steps into the picture.

Axminster Duck. In view of these conditions and to assure that wheels will be kept turning in any eventuality, this company switched several velvet looms onto duck work first. This was easy. The structure of a velvet loom makes it readily adaptable to weaving hard textured duck. The Axminster loom is more difficult to modify for production of duck.

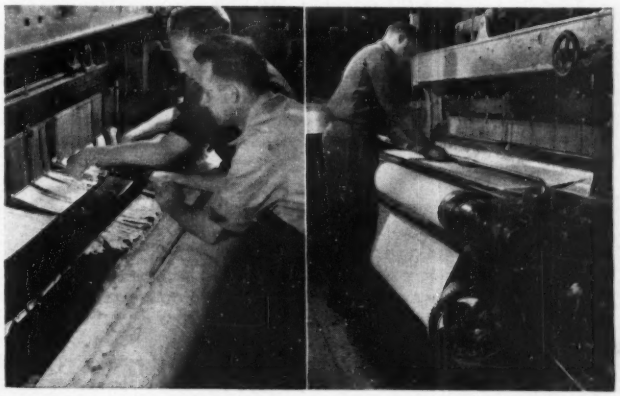
Why? For one, even if the Axminster loom could be converted to duck, a continuing and heavy demand for the special product had to exist in order to make the venture financially feasible. Research and intensive experimentation developed the item; a soft textured 18-ounce per square yard duck woven two picks as one. The cloth construction, peculiar to Axminster looms, gave the weave moderate elasticity and high tensile strength warp and filling ways—perfect qualifications for good servicing cot fabric.

This answered a desperate military need. Hard textured duck formerly used for this purpose ripped under body load (down the warp at cot frame fastening points). The newer fabric does not.

Packing in two ends of filling woven as one permits added elongation and recovery of warp ends under stress. At the same time, these needle picked filling yarns enhance tensile strength in the filling direction. Details of construction are covered in U. S. Army Specification No. 6 - 342 "Duck: Cotton, Plied-Yarns (Army, Numbered and Special Use)." Yarn counts are 9s/4 warp, 8s/4 filling woven 23 yarns per inch square. Grab method (1 x 1 x 3) break strength is 270 pounds warp, 260 filling.

The cot duck is being woven on 27″, 36″, and 9′ looms. In carpet manufacturing vernacular these

VELVET LOOMS were first to feel the impact of military procurement. Ideally suited for duck weaving, they present few problems in converting to hard textured duck production.



sizes correspond to 3/4, 4/4, and 12/4 widths respectively. As the program develops, other looms of varying sizes will be geared up for duck.

Loom Conversion. Little precedence existed to guide the engineers in converting the Axminster mechanisms from carpet to duck weaving. Work began on the basis of leaving as much as possible of the Axminster loom intact. Carpet weaving motions that interfered with duck production were to be stripped from the loom or disconnected. Duck weaving motions and accessories were then to be assembled on the loom.

Loom fixers are given detailed instructions. See accompanying box for parts taken off or disconnected on 12/4 looms when changing to duck.

The same method used to change 12/4 looms may be applied to other width looms, with few exceptions. The huge overhead Axminster spool frames are left in place for the day when they will be recalled to service. The blade motion, which cuts the pile loops on the carpet surface, is kept intact except for those parts mentioned previously. The Axminster needle motion is left unaltered. It takes the place of the shuttle on a conventional loom, picking filling

PARTS TAKEN OFF OR DISCONNECTED ON 12/4 LOOMS FOR CHANGING TO DUCK

1. Take all warp beams out of loom.
2. Remove knife castings and stamp number of loom on same—store in 41 bldg., 1st Floor.
   Disconnect all knife balls and studs.
   Fasten back knife rods to clutch arms.
3. Remove reed and binder and mark number of loom on same.
4. Take heddle frames and levers, harness cams, out of loom, strip heddles, tie and send to stock room.
5. Remove chain cam lever, stand and rod from loom.
6. Disconnect all comb rods and levers and fasten to frame of loom.
7. Remove ball from adjustable cam lever and fasten clutches up to frame of loom.
8. Disconnect motion rod and pawl off bottom beam ratchet, remove both ratchets.
9. Remove reed wire stands and screws.
10. Take both blades off. Save screws and nuts in separate containers and send to stock room.
11. Take comb plate out carefully and tie to stick and send to stock room.
12. Both beam shafts to be stored in 1st floor, 41 bldg.
13. Remove breastplate on hook board looms only.
14. Reverse beam whip rollers.
15. Remove 2 selvage boxes, use one on needle side with extension bracket.
16. Remove all lay points.

CONVERSION KIT FOR AXMINSTER DUCK LOOMS

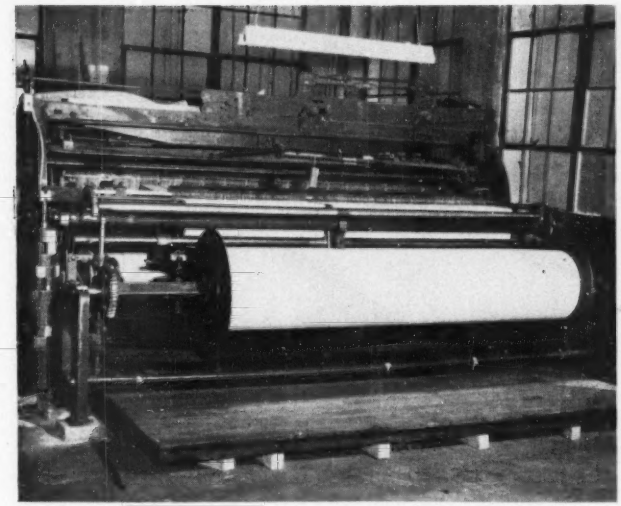
Part Name	Material	No. Req.
Beam Ext. Assembly		
Brake Pulley	C. I.	1
Bracket Supports	Angle Iron	1
L. H. Beam Support	C. I.	1
R. H. Beam Support	C. I.	1
Let-off Rod	Steel	1
Beam Shaft	Steel	1
Beam Support Strap	M. S.	2
Top Brake Stand		
Bottom Brake Stand		
Brake Stand Bracket	Steel	1
Top Brg. (Let-off)	S. S.	1
Bottom Brg. (Let-off)	C. I.	1
Beam Support Spacer	Pipe	1
Beam Support Tie Rod	C. R. S.	1
Center Frame Support	C. S.	1
Let-off Arm	Steel	1
Let-off Worm Wheel	Mang. Bronze	1
Beam Head - 30"	C. R. S.	2
Beam Head Support	C. R. S.	2
Barrel - 30" Beam	Pipe	1
Let-off Link	C. R. S.	1
Frame Support	Steel	1
Let-off Link	Steel	1
Let-off Link	Steel	1
Let-off Link Stud	C. R. S.	1
End Plate	Steel	1
End Plate Stud	C. R. S.	1
Let-off Cam	C. I.	1
Let-off Arm Stud	C. R. S.	1
Beam Let-off Shaft	C. R. S.	1
Beam Sizes		
Frame Support	Steel	1
Collar	Bronze	1
Heddle Assembly		
No. 1 Heddle Lever	S. S.	1
No. 2 Heddle Lever	S. S.	1
Heddle Guide	C. I.	1
Heddle Guide	C. I.	1
Heddle Cam	C. I.	2
Heddle Cam Roller	C. R. S.	2
Heddle Drive Gear	Steel	1
Heddle Cam Lever	S. S.	1
Heddle Cam Lever	S. S.	1
Heddle Cam Lever Stud	Nl. MO. 4615	2
Heddle Lever Back Spac.	C. R. S.	2
Heddle Lever Center S.	C. R. S.	2
Heddle Lever Slide Spac.	M. S.	2
Driven Hub-Heddle Cams	Steel	1
H 1 Top Harness Lever	S. S.	1
H 2 Top Harness Lever	S. S.	1
Heddle Frame		

Part Name	Material	No. Req.
Whip Roll Assembly		
Center Brace	M. S.	1
Center Brg. Supports	Steel	1
Lower Bracket	Angle Iron	2
Channel Supports	Channel Iron	2
Upper Bracket	Angle Iron	2
Brace	Steel	1
Weight Extension	C. S.	1
Weight Lever	C. S.	1
Weight Lever	C. S.	1
Weight Rod Stud		
Whip Roll Brake	Wood	1
Weight Arm	Steel	1
Reed Assembly		
Reed Binder	M. S.	1
Reed	To be determined by Duck Specifications	
Reed Binder	M. S.	1
Reed Binder	M. S.	1
Reed Binder	Flat Stock	
Reed Braces		
Reed Back		
Intermediate Gear Assembly		
Inter. Gear Stud Nut	C. I.	1
Inter. Gear Stud Washer	C. R. S.	1
Inter. Gear Bracket	C. I.	1
No. 1 Inter. Gear	Steel	1
No. 2 Inter. Gear	Steel	1
Inter. Gear Stud	Nl. MO. 4615	1
Lay Assembly		
Lay Cam	S. S.	6
Lay Lever	S. S.	2
Lay Lever Stud		2
Miscellaneous Parts		
Roll-up Supp't. (Center)	Steel	1
Roll-up Supp't. (Foot)	Steel	1
Roll-up Supp't. (Cap)	Steel	1
Filling Guide		
Roller (For Roll-up)	C. R. S.	1
Roller (Bracket)	C. I.	1
Roller (Stud)	C. R. S.	1
Duck Holder	Galv. Iron	3
Bridge	Wood	1
Roller for Bridge	Wood	1
Needle Head	C. E. M.	1

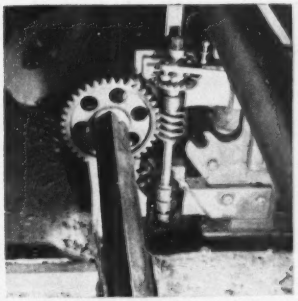
Part Name	Material	No. Req.
Miscellaneous Parts (Continued)		
Track	I-Beam	2
Rear Cross Beam	Angle Iron	1
Front Cross Beam	Angle Iron	1
Track Hangers	Angle Iron	2
Chain Fall Stops	C. R. S.	4
Chain Fall		2
Beam Strap		
Solenoid Arm	No. 1 Stock	1
Roll-up Spring Arm	No. 1 Stock	1
Push Button Stand	No. 1 Stock	1
Individual Take-up		
Take-up Shaft	C. R. S.	1
Collar	C. R. S.	1
Lever Stop	Steel	1
Collar	C. R. S.	1
Cam Follower		1
Cam Lever	C. S.	1
Spring	Steel Wire	1
Take-up Pawl		1
Take-up Pawl Lever		1
Bearing Stand		1
Let-off Cam	Steel	3

Electrical Supplies

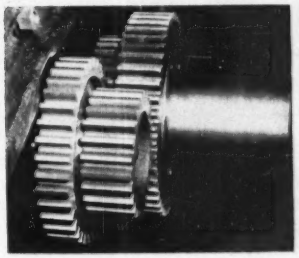
Name of Part	Reference	No. Req.
Transformer	110/12 Volts - 50 V.A. - 60 Cycle	1
Safety Switch	Trumbull - 230 Volt - 30 Amperes - Type D	1
Solenoid	G.E. - 110 Volts - Cat. 2237032AB271-CR-9503-211E	1
Switch	MH - No. MHB 223	2
Relay	Ward Leonard-Standard Duty-Double Pole, Single break, normally open - 12 Volt - A.C. - 60 Cycle	1
Push Button	G.E. - CR2943-AA101E	1



REINFORCED LEVERS may be seen in this rear view of an Axminster loom that has been converted to weave duck. Carpet warps are considerably lighter than the 18-ounce duck warps being woven. Built-up levers can take the added load. Note that duck beam is narrower; consequently the beam extension arrangement is necessary.



BEAM EXTENSION assembly details are visible in this close-up photo. It permits the use of narrower single beam used for duck (see photo at left).



INTERMEDIATE GEAR assembly enables cam to be driven at half the speed of the main shaft. Speed reduction is essential to duck loom's 6 to 1 picking ratio.

yarn through the shed.

After a loom is torn down, it may be relocated. Factors determining the machine's new position in the mill are: floor space utilization, flow of materials, and work load assignments. In many respects, the lay-out for duck weaving bears little resemblance to that of carpet weaving.

Next, a complete remodeling kit is supplied the fixers. Some components are made in the company's large machine shops. Some are brought out of inventory. The balance is purchased. There are seven major assemblies in the kit besides miscellaneous supplies and electrical apparatus (see tabulation on opposite page).

Major Assemblies. The major assemblies are: beam extension, heddle, whip roll, reed, intermediate gear, lay, and individual take-up. Of these, the beam extension, heddle, intermediate gear, and individual take-up assemblies do the most to make the rebuilt loom tick properly. In fact, if it weren't for the way these parts were designed it would be impossible to weave duck.

The beam extension permits a larger one piece beam with a 30-inch diameter head. The width of the beam fixes duck width.

The heddle assembly employs only two shades as compared to the three required in three shot Axminster weaves. Consequently, the middle heddle and lever are removed and a spacer substituted so as to retain an accurate center line for the two remaining outside levers.

Heddles are sturdier and levers are reinforced to withstand the greatly increased warp load common to duck. Whereas the Axminster heddle assembly was designed for a 7-pitch (ends per inch), for example, there are 23 ends per inch in the duck sley.

Changing from a three-shot to a two-shot weave was ingeniously accomplished. Two identical duck cams replaced the three dissimilar carpet cams. Each duck cam is provided with three outside dwell points and is keyed opposite on the cam shaft. At the same time, each duck cam is made to rotate at half the speed required of the carpet cam. In this way a 6 to 1 ratio of pick to main shaft speed is maintained. This ratio is harmonious with the 3 to 1 timing ratio used in carpet production.

Halving the cam shaft speed is the function of an intermediate gearing assembly. Each cam is mounted on a sleeve revolving freely around the main shaft. The driving gear is keyed to the main shaft, while two intermediate gears are keyed to an intermediate shaft. A fourth driven gear is made integral with the cam.

The cam cycle for duck as compared to carpet weaving may be seen by examining the chart of cam throw points following:

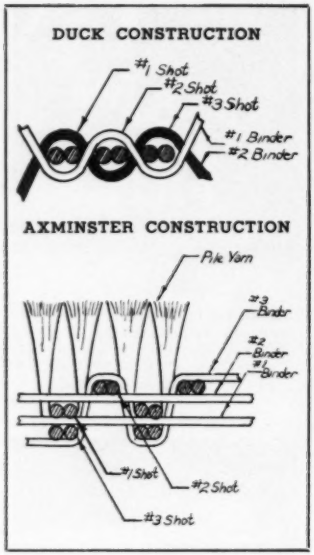
DUCK CONSTRUCTION

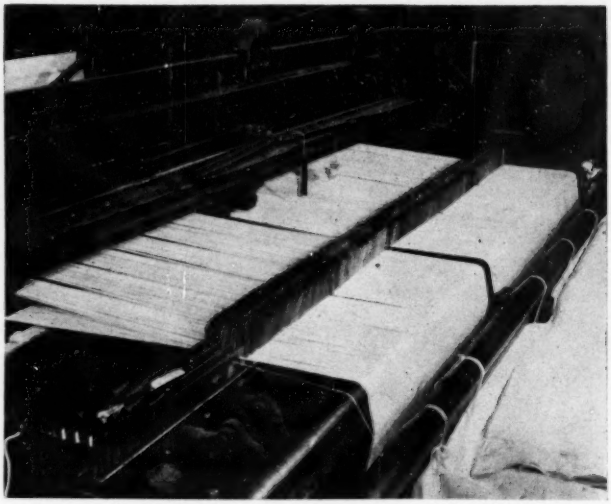
N	Number Shot					
H	1	2	3	4	5	6
1	Up	Down	Up	Down	Up	Down
2	Down	Up	Down	Up	Down	Up

AXMINSTER CONSTRUCTION

N	Number Shot					
H	1	2	3	4	5	6
1	Down	Down	Up	Down	Down	Up
2	Up	Down	Up	Up	Down	Up
3	Down	Up	Down	Down	Up	Down

Note: Letters NH in table above stand for Number Heddle.





WARP STOP MOTION maintains high quality of duck. Knock-offs are not considered necessary for carpet weaving.

For duck weaving purposes, the take-up roll has been brought out from under the carpet loom and placed in back of the weaver's position. The fabric passes underneath the weaver. The Axminster carpet take-up motion was operated directly off the lay. With increased beat-up load, the lay is now inadequate as a source of power. A more positive take-up is obtained from the main shaft. Motion is transmitted by ratchet and pawl. Such arrangement all but eliminates oil or grease contamination.

Warp and filling stop motions are two of the most important accessories installed on the duck loom. Unnecessary for carpet weaving, these two features go a long way toward maintaining duck weaving quality.

In spite of the novelty, overall efficiency is now running between 75 and 85 per cent, depending on the type of loom. This figure includes all down time, machine and weaver. Training programs for the weavers emphasized duck type defects primarily since the bulk of work load is quality control. An Axminster carpet weaver can transform into an expert duck weaver almost overnight.

Without a fully equipped machine and carpenter shop, tooled up for volume production, it is doubtful whether Smith could have effected the change-over upon such short notice.

Waste Water Sampling Information Offered

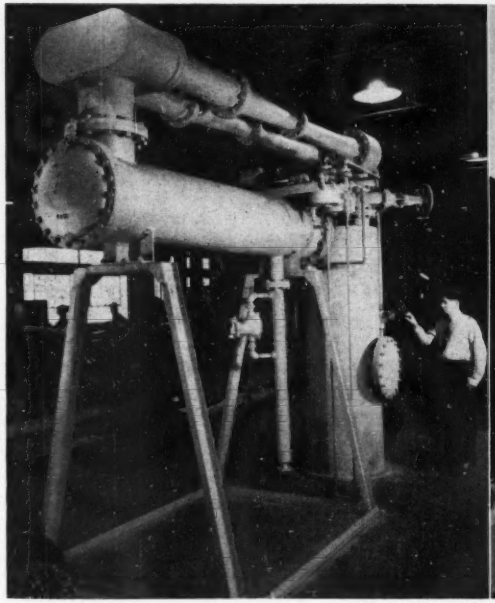
Water shortages of the last few years in certain localities, prospective materials shortages, and the passage of "clean stream" laws have made many plant managers conscious of the need for consistent sampling of waste waters and measurement of their flow.

With knowledge of the composition and volume of such waste it is often possible to treat waste water for reuse in the plant, as well as to treat the effluent so it will be acceptable for admission to streams or municipal sewers. In certain cases, the study of waste waters has permitted the recovery or conservation of valuable raw materials, which otherwise might have gone down the drain.

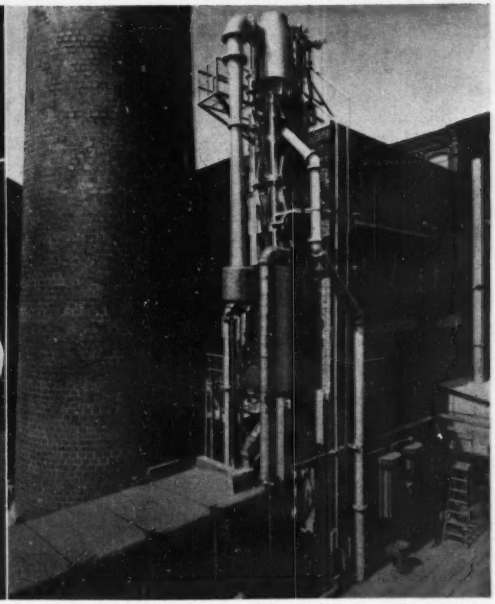
Many improvised sampling systems have worked well. As the problem has been more fully understood, however, there has been a growing demand for completely automatic systems, according to reports.

There are now on the market systems which afford a choice between intermittent and continuous sampling, from lines flowing under pressure or from open channels.

Plant managers desiring additional information concerning sampling and gauging methods are referred to the discussion of "Gauging and Sampling Water-Borne Wastes," by Charles F. Hauck of Hall Laboratories, Inc., in the ASTM Bulletin of December, 1949. Reprints will be sent by the Hagan Corporation, Hagan Building, Pittsburgh, Pa., upon request.



A TWO-JET REFRIGERATION MACHINE. Jets are at top and mounted horizontally. Tank below jets is condenser; vertical tank is evaporator.



Graham Manufacturing Co., Inc.

THIS SINGLE JET REFRIGERATING SYSTEM is mounted vertically outside the plant. It is simple in construction, weighs little, and has no moving parts.

Cooled Air from Steam

Steam used in winter for heating may be used in summer for cooling, keeping the unit cost of steam at the low winter rate all year around.

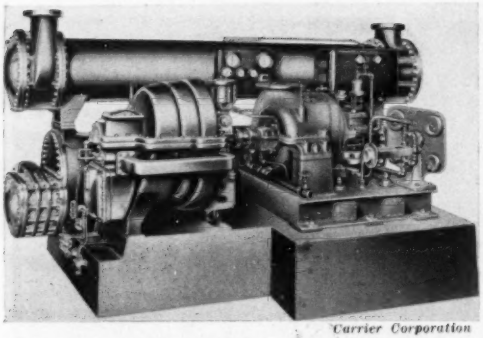
EXCLUSIVE

By WALLACE R. EVANS
Air Conditioning Engineer
Celanese Corporation of America
Rock Hill, S. C.

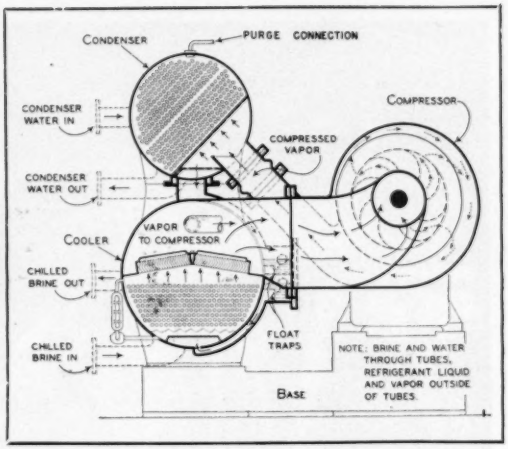
TEXTILE MILLS, for the most part, keep a boiler burning summer and winter. When the boiler was purchased, its size was calculated according to the combined demand for process steam and hot water in the summer and the additional heating load in winter. This means that all during the summer, with the reduced load, steam costs are higher per pound of steam, for the boiler is operated at only a fraction of its rating and consequently at a low overall efficiency.

If some good use could be found for steam in summer, the unit cost of steam could be kept at the low winter rate all year around, and one obvious use for steam is for cooling the mill. In other words, the steam used in winter for heating may be used for cooling in summer. Steam lines from the boiler to the plant are already in place, no wiring or additional transformers or switch-gear are required, and the use of steam for cooling brings about a plant heat balance that is economically sound.

There are two classes of mills in which the winter and summer demands may be sufficiently unbalanced. The first is one in which the conditioned space is considerably smaller than the heated space. The second is one which does its own finishing. In



Carrier Corporation



TURBINE DRIVEN CENTRIFUGAL COMPRESSOR. Turbine is at right and compressor at left. This is the same as the electric motor driven centrifugal refrigeration machine except that the compressor is driven by a steam turbine rather than an electric motor. Diagram of a centrifugal refrigeration system appears at right.

the second instance the buildings in which the finishing is done provide the extra heated space, and the steam for heating water is considerably less during the cooling season.

There are limitations in the use of a steam operated cooling system. Generally speaking, if less than 100 tons of refrigeration are needed to cool the plant, it is best to stick to an electric motor driven, reciprocating compressor. In the smaller sizes, this type of unit is usually desirable, but it might be economically feasible to do more cooling and go to steam. For example, a mill may find that it requires cooled air for only spinning and twisting rooms, and that this would take about 85 tons. This would indicate that the mill should use a freon system with an electric driven reciprocating compressor.

While not absolutely needed, from a process point of view, it is agreed that it would be desirable to cool the rest of the mill for comfort if nothing else. Cooling the whole mill might take 125 tons or perhaps more. It is possible that by using steam for cooling, the operating costs would be less than for cooling only the spinning and twisting with a motor driven compressor using freon as the refrigerant. The economics of this would depend primarily on the cost of power purchased and the cost of steam per pound with the boilers operating at the full load of process plus cooling steam. These are not hard figures to come upon, and they are well worth investigating.

Three Methods. There are three principal ways of using steam for cooling of large industrial areas. They are (1) steam jet system, (2) turbine driven centrifugal compressor, and (3) the lithium salt absorption system. Each of these has some inherent advantages, and each has disadvantages. The choice of the proper system for the particular job is one that must be made after consideration of all factors by an engineer experienced in the field.

For example, the steam jet requires about 50 psi steam for its operation. The steam driven centrifugal may utilize any of the various types of turbines which are designed for either high or low pressure steam—may run condensing or supply steam at reduced pressure for process. The absorption machine can be run with steam at any pressure above 10 psi.

In addition, the type of air conditioning system also has a bearing on the selection of the type of refrigerating machine.

The most efficient way of utilizing the chilled water is to spray it in direct contact with the air. This gives good heat transfer but unfortunately is a very effective means of aerating the water. The air so entrained, puts a heavy load on the evacuating equipment of the steam jet and the absorption machine.

The use of chilled water coils for cooling lint laden air is inadvisable for several reasons. The task of keeping the coils free from lint is a difficult one, particularly in cotton mills. The chilled water must be carried at a lower temperature because the heat transfer from coils to air is less efficient. The interposition of cooling coils between air and chilled water, therefore, increases the cost of all three types of refrigerating machines and increases the operating cost of all but the absorption machine.

Steam Jet System. The steam jet system is simple in construction. The cooling system consists of an evaporator (a closed tank), a set of steam ejectors, a condenser, and a circulating pump. Water is sprayed into the evaporator, steam jets are used to pull a vacuum, and the cooled water which is collected in the bottom of the tank is pumped into the area to be cooled. The temperature of the cooled water is determined by the amount of vacuum in the evaporator—the lower the vacuum, the cooler the water. Correspondingly, the more steam used through the nozzles of the jets, the lower the vacuum. Therefore, the more steam used, the more cooling which can be accomplished. For example, a vacuum of about ½-in. of mercury in the evaporator corresponds to a

cooling water temperature of 60 F. A vacuum of about .2-in. corresponds to a temperature of 36 F for the cooling water. The desired temperature of the cooling water is maintained by holding the vacuum corresponding to that temperature.

The system also requires a condenser to condense the steam from the nozzles of the jets and a considerable amount of cooling water for this condenser.

The first cost of this system is low. Its simplicity keeps maintenance costs down to the point where there is practically no maintenance cost except for keeping the system clean. The nozzles are long lasting and need replacing perhaps once in ten years.

Operating costs of the steam jet system are comparable to other systems using steam if the system is operated at or near the peak of its performance curve. It is something like a gasoline engine in that it has a specific point for maximum economy. Operate it either above or below that point, and costs go up. The nozzles in the jets must be designed for an optimum steam flow, and if the flow is much changed from this point, efficiency drops off rapidly. It is possible, of course, to control the air temperature in the conditioned area without changing the flow of steam through the nozzles. It is also possible to cut off one or two nozzles to reduce steam consumption for decreased demand. This will accomplish all of the regulation and give all the flexibility normally needed.

In the steam jet machine, multiple jets with individual step control are frequently essential to efficient operation. The amount of steam which must be passed through a jet is determined, not so much by the refrigerating load, but by the velocity required to maintain the static differential between suction and discharge pressures.

In selecting a jet system, the temperature of the condensing water should also be considered. The lower the temperature of the condensing water, the more economical the operation of a steam jet system.

It is also recognized that the jet system is best adapted to cooling where the conditioned air is desired at above 55% relative humidity. Also, it is not economical where low air temperatures are required. Low air temperatures (below 70 or 75 F) require a very cold coolant, and it takes too high a vacuum to get such low coolant temperatures. The chilled water used as the coolant can be brought down to 50-55 F or a little less with ease, but to bring it much lower would be expensive.

The steam required for the system should be at 50 psi or over, but most industrial boilers can handle this pressure.

A point, and sometimes a major point, in favor of this system lies in the fact that it weighs little, has no moving parts, and requires no more foundation than the building in which it is located.

Turbine Driven Centrifugal Compressor. This system is identical to the standard reciprocating compressor system which uses a refrigerant for cooling, except the compressor is of the centrifugal type and is driven by a steam turbine. The only difference between this and the standard motor driven system is in the equipment used to compress the refrigerant and the type of refrigerant used. When the demand is above 100 tons of refrigeration, a centrifugal compressor is usually recommended by the manufacturers of such equipment. If steam is available, there is usually no reason it should not be used to drive a steam turbine directly connected to the compressor. The only point to consider here is whether a steam turbine is the

LITHIUM SALT ABSORPTION REFRIGERATION SYSTEM is shown here. It depends only upon a source of heat for operation. Low pressure steam is a good heating medium. See diagram at left for principle of operation of lithium salt absorption refrigeration system.

Carrier Corporation

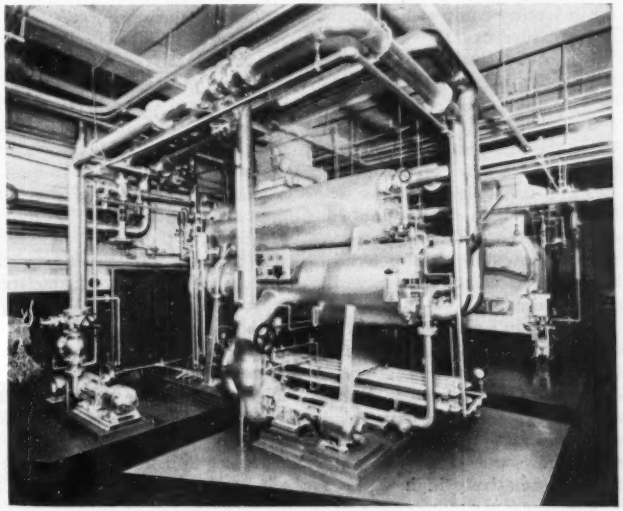
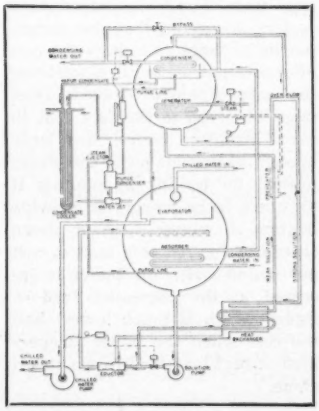


DIAGRAM of a lithium salt absorption refrigeration system.



Eastern Carolina STA Members See Testing Machines Demonstrated

Highlight of the spring meeting of the Eastern Carolina Division of the Southern Textile Association held at the North Carolina State College, Raleigh, N. C., on March 3, was a demonstration of textile testing machines by Prof. D. S. Hamby of the School of Textiles.

Following the talk by Prof. Hamby, divisional officers were elected: **J. E. Shaw**, Rosemary Mfg. Co., Roanoke Rapids, N. C., chairman; **S. G. Riley**, Pilot Mills, Raleigh, N. C., vice-chairman; **J. P. Hughes**, Eno Cotton Mills, Hillsboro, N. C., secretary.

New members of the executive committee are: **J. K. Bruton**, Mill No. 5, Erwin (N. C.) Mills, Inc., and **C. A. Phillips**, Edenton (N. C.) Cotton Mills.

most economical drive.

If steam is available at 50 psi or above, the turbine is well worth considering. Its first cost is more than the steam jet system, but it is usually more economical to operate. It requires little maintenance, but when it does require repair, it takes skilled help.

The turbine used can be either a condensing or a back pressure type with process steam taken from the exhaust. The back pressure type is frequently selected for mills using process steam. The steam to the turbine is at perhaps 100 psi, and it turns the turbine and exhausts at 15 psi, the exhaust being used as process steam. Steam from the turbine can be used for cooking starch, for the slasher, and for any other equipment requiring low pressure steam.

If a condensing turbine is used, the condensing water can be run first to the refrigerant condenser and then to the turbine condenser. Using the same water for condensing both the refrigerant and the steam, it is possible to get by with less water than is required for either of the other cooling systems operated by steam. If cooling water is costly, this is worth consideration.

This makes a completely flexible system, and when there is a wide variation in the demand for cooled air, it may well prove to be the cheapest system in the end. This is especially true if an economic study shows that steam and water costs are relatively high.

Lithium Salt Absorption. The lithium salt absorption system is new. Not too much can be said about it so far as industrial experience is concerned. All that it needs to operate it is heat—heat from any source. Quite a number of these systems have been sold in the southwest where natural gas is a cheap fuel. They appear to be doing very well. Where steam is available at a reasonable price, they are without doubt worth considering seriously, and there is some reason to believe they may often be the wisest choice for an industrial system.

The first absorption machine was sold to a manufacturer of waxed paper specialties, The Sealright Corp., Fulton, N. Y., and installed in the spring of 1946. It has logged about 6000 hours during each of the cooling seasons.

The lithium salt is in a solution which absorbs moisture. Without going into the details of the system, the cooling cycle may be explained by stating that cooling is brought about by the absorbing quality of the chemical, but that in the process, the solution picks up water vapor. To reactivate the lithium salt solution, this moisture must be driven off. Heat is used to thus concentrate and reactivate it.

Steam is a source of heat, and this heat is used to concentrate the lithium salt. Nothing else is needed to power the system.

The equipment is an enclosed, self contained unit constricted in much the manner of a heat exchanger. The lithium salt solution is sealed in and does not "wear out." Recharging is not required. So far as can be determined, maintenance is low—practically negligible. First cost is low—it is comparable to a steam jet system, and operating costs are probably between the jet and the turbine.

Certain basic characteristics of the absorption machine are different from their counterparts in both steam jet and centrifugal. The end result is that the amount of steam per ton of refrigeration generated, is practically constant regardless of steam pressure, condenser water temperature, chilled water temperature, or the per cent of full load at which the machine is operating.

The reason is two-fold. In the low side of the absorption machine water vapor is first absorbed by the solution and then pumped as a fluid part of the solution from the low side to the high side. Hence no water vapor, as in the case of the steam jet, or refrigerant vapor as in the centrifugal, has to be pumped in the form of vapor from the low side to the high side.

The solution is regenerated on the high side by a process of boiling. Hence the amount of steam which is required for the boiling process is determined almost entirely by the latent heat of the steam which does not vary greatly with steam pressure.

Steam Costs Deciding Factor. There are, then, three good ways to use steam for cooling of industrial areas. The really determining factors, assuming that the system needed is large enough, is the cost of steam and water. In computing the cost of steam, consideration must be given to the fact that in most instances boilers are large enough to provide all of the steam needed for cooling in summer if they are large enough to provide heating in winter. Cost of steam should be figured on a basis of cost per pound when the boiler is operated at the increased load—a figure which is much lower than the cost when the boiler is operated at part load for process steam alone.

Textile Industries *presents*—

Parade of Pensions

By W. W. FELLERS and W. R. WILLIAMSON
The Wyatt Company

MOST OF US are in the pension parade whether we know it or not. You're in it. Your company is in it. If your company has a union problem, the union is probably in it or trying to get in it. The government is most certainly in it. It is a long parade and we haven't seen the end of it yet. The bands come marching along heralding the approach of this or that float. Some of the floats come along without benefit of much fanfare although most of them seem to get the full treatment.

The purpose of this article is to give a brief word picture of some of the more important floats, recently entered in the parade, which may have a bearing on pensions in the textile industry. From the point of view of the southern textile industry the union slant may have been overemphasized herein. But the development of pensions in the last few years has been greatly influenced by the labor settlements with unions in this field. Also, many non-union employers feel that their employees should receive pensions at least as large as those provided to union members.—The Authors.

Float 1

TWUA Demand. This year the Textile Workers Union of America CIO sought a substantial wage increase for its 200,000 members. It also sought company paid pensions of at least $100 a month, including Social Security, for workers reaching age 65. The pension part of the demand involved the kind of benefit formula that was adopted by the automotive and steel industries.

At the present time only a few of the employees in the South are organized; however a higher proportion and probably most of the 200,000 members of the Textile Workers Union are in the North. The level of pensions to be initiated for union employees may well become the minimum level of pensions recognized for textile operatives generally.

There are a number of factors, regarding pensions, that differ between the South and the North. A differential in wages has been found in some instances, but this differential has been narrowing. In many areas of the South the textile mills are related more closely to the community life than in the North, and in the South certain types of work may be done more in the homes than in the mills. These are some of the factors which may have a bearing on the level and kind of pensions established for southern textile operatives.

In the August 1950 issue of TEXTILE INDUSTRIES it was noted that 25% of the employees in the organizations surveyed were covered by pension plans. However, only 15% of the organizations surveyed had plans. One thing this indicates is that the larger organizations have already initiated pension programs. Furthermore, it was noted in the survey that most of the plans provide benefits based on earnings and service of an employee. Some of the plans provide for advance-funding with funds held in trust by a Trust Company or by an insurance company, or as part of the assets of the company itself. Those organizations which do not have formal pension plans generally make some provision for their older employees who can no longer continue in useful employment.

From the standpoint of the individual employee there are certain principles which enter into the philosophy of a pension plan. For many years the idea accepted generally was that an employee should save enough so that he could take care of his own retirement problem. This was facilitated by the more rural way of life, the fewer modern appliances deemed necessary, and the lower income tax rates. However, with the further mechanization of industry, the more urban way of liv-

ing, the desires and seeming needs for modern appliances, and higher taxes, it has seemed increasingly difficult for the employee to make proper advance provision for his own retirement.

For the same reasons, others of his family have found it increasingly difficult to take care of him in his old age. Nevertheless, it is desirable to emphasize his responsibility for old age security and to consider joint provisions therefor.

TABLE I

ILLUSTRATIVE MONTHLY PENSION BENEFITS PAYABLE UNDER THE SOCIAL SECURITY ACT

Average Monthly Earnings	Level of Primary Social Security Benefits[1]	
	Before 1950 Amendments[2]	After 1950 Amendments[3]
$100	$28	$50
200	39	65
250	45	73
300 and more	45	80

[1]Payable from age 65 and increased by 50% when spouse is also over age 65.

[2]Assuming 12 years of coverage under the Act—primary benefit is 40% of the first $50 and 10% of the next $200 of average monthly earnings, increased by 1% for each year of coverage.

[3]Primary Amount of benefit is 50% of the first $100 and 15% of the next $200 of average monthly earnings.

Note: Because under the 1950 amendments retirements from 1953 onward may ignore the lower wages before 1951, the increases may be even greater than those shown.

Float 2

Social Security and Other Acts of Congress. During the depression years of the 1930's when the assets of many persons were evaporated "through no fault of his own," the Federal Government adopted the Social Security Act. One of the main functions of this Act was to provide in some measure towards the future retirement benefits of the aged. The level of Social Security benefits was liberalized considerably in 1950 (see Table I for comparative levels of the old age benefits) and there are continuing efforts being made to liberalize them even further in the years to come. The extent to which the government should take over the responsibility for providing retirement benefits is an unresolved issue.

It is important to maintain initiative, and if the government assumes the individual's responsibility, his initiative may be impaired. It is desirable that the provision for pensions be as closely related to the sources of production as possible, and for this reason the individual and his employer should assume the responsibility for the provision of the old age income insofar as possible. This should help preserve individual initiative and also be a control on excessive benefits. That initiative was needed in buying World War II bonds and is apparently needed now.

In 1942 the Internal Revenue Act and the wage and salary stabilization legislation gave added incentive for an employer to establish a pension plan. The government encouraged the establishment of company financed pension plans by allowing, within limits, amounts contributed thereto to be exempt from taxes. The limits were prescribed by the Bureau of Internal Revenue. Furthermore, within certain limits employees could thereby be granted indirect increases in pay which did not violate the provisions of the wage and salary stabilization legislation. Consequently, during the years of World War II particularly, the employer had a certain added interest in establishing a pension plan. The employer could hope that economies would result, in the long run, from retiring older employees and replacing them with younger and more efficient employees. It was felt that there was considerable justification in setting up a plan to take care of the depreciation in human values as well as the depreciation in physical plant asset values.

Float 3

Profit-Sharing Approach. The employer should consider many basic factors in connection with his pension problem. In the last analysis any kind of pension benefits will have to be provided from income. Therefore, a logical conclusion might be that the funding of pensions should be related directly, in some manner, to profits. Limiting the funding of pensions to what may be provided through profits is considered a main advantage of the profit-sharing approach. A number of profit-sharing plans providing for the payment of pensions have been established on this principle. In essence, a profit-sharing plan might provide that a certain proportion of profits (not to exceed 15% of payroll, under the current Bureau of Internal Revenue limitation) be allocated to employees for distribution, at a later date, in the form of pension benefits.

A number of other points should be kept in mind in considering the profit-sharing approach in connection with pension planning:

First, if a union is involved, the source of funds to provide pensions might be viewed by the union as the same source used for providing wages. This could mean that pensions should be paid for *before* profits are determined, rather than from a certain proportion of profits.

Second, in the early years after the initiation of a profit-sharing plan, the amount of the personal account allocated (by almost any profit-sharing formula that would meet with Bureau of Internal Revenue approval) to the older employees has been found to be insufficient to provide for any kind of reasonable retirement benefit. This means that for some years to come pensions payable from a profit-sharing plan may prove unsatisfactory to the employees who are being pensioned. The more usual type of pension plan makes possible the application of a greater proportion of the funds initially becoming available to the older employees, so that their retirement benefit will be more realistic in relation to their level of earnings at retirement.

Third, a profit-sharing arrangement means maintaining individual accounts for each employee, and the administrative problems of periodically reallocating the assets (taking into account any appreciation or depreciation thereof) held to these accounts, as well as the allocation of contributions made.

Fourth, a profit-sharing plan generally may tend to lose favor with employees to the extent that the benefits are deferred (as would be the case with pensions) rather than being paid currently and to the extent that future profits do not materialize as hoped.

From the standpoint of many unions, pension plans are currently in favor. This has not always been the case. In the past certain unions have felt that the employee should receive additional compensation and provide therefrom, for his own old age security. However, pensions are now popular and there has not been much indication that unions particularly favor a profit-sharing approach for the implementation of pensions.

There is one compromise which has actually been utilized in certain instances and which is now being explored by some companies in connection with union settlements. This approach is to set up a pension plan in respect of service and earnings prior to the effective date of the plan and a profit-sharing plan in respect of service, earnings, and profits after the effective date of the plan. Such a combination plan makes it possible to provide reasonable benefits to the older employees who are near retirement, mainly through the pension plan which is based upon past service and/or earnings. However, it should be noted that although this may be a compromise and the liability may be limited to past service for pensions, such a plan would have the features, good and bad, of both a pension plan and a profit-sharing plan.

Float 4

Pension Plans Initiated by Unions. A number of pension plans have been set up to cover union members. The desire was to provide a certain minimum pension to union members who could no longer continue in employment. This has been a reflection of the transition to urban life and the mechanization of industry seeming to result in the greater difficulty of any one individual to make provision for his own old age benefit. The feeling was that the union members who were working owed those who were old or disabled and no longer able to work after many years of service, some minimum form of pension benefit. What was inadequately being done on a family level could be supplemented on a group basis (a group larger than the family). Consequently, in certain instances the pensions were paid directly out of the union treasury and the funds going into the union treasury were, of course, the union dues. It soon became apparent that a much more substantial proportion of union dues would have to be used for the payment of pensions. Therefore, the unions bargained with the employers to help pay, or fully pay, the cost of pensions. By this time the amounts set aside for pensions had usually been segregated from the general union funds, and the contributions towards pensions had been earmarked; generally trustees selected by the union and employers administered the plan.

Probably one of the most widely known and publicized union plans is that of the United Mine Workers. This plan was set up in 1946 and provided for a pension benefit of $100 monthly upon retirement after age 62 and the completion of 20 years of membership. Initially the funding arrangement was that employers would pay into a pension fund 5c per ton of coal mined. However, over a period of four years this has been increased to 30c per ton of coal mined and there is still some question as to whether or not this will be sufficient to meet the level of pension and other benefit payments. Even though it might be sufficient to meet the level of pension benefit payments alone, there are disability benefit payments which have eaten into the fund considerably more than was anticipated when the fund was initiated. As a matter of fact, certain benefit payments had to be suspended for some months in 1950. Contributions are made to a trust fund and the plan is administered by three trustees, one of whom represents the union, another of whom represents the employers, and the third is an impartial member.

Another plan of this type is that of the International Brotherhood of Electrical Workers. This plan provides a pension benefit of $50 monthly to those members who have retired after they have attained age 65 and have completed 20 years of membership. The funds from which pension benefits are payable are derived from monthly contributions of 60c for each member plus 1% of payroll from the electrical contractors who employ members of the International Brotherhood of Electrical Workers. This plan is administered by a pension board of fifteen members.

A third plan of this type is that of the Clothing Workers Amalgamated CIO, initiated in 1945, and covering then about 70,000 members. This plan provides a benefit of $50 monthly to those members who retire after age 65 and the completion of 20 years of service (of which at least 10 years of service must also be as a member in the union). The pensions are provided by a 3% of payroll contribution from employers of union members. The pension benefit itself is underwritten on a year to year basis by the Amalgamated Insurance Fund. This means that a person who is pensioned has his annuity guaranteed only a year at a time so that if the Amalgamated Insurance Fund does not receive the necessary amount to pay him his pension in a particular year, then he may receive a reduced pension. It should be noted, therefore, that the Amalgamated Insurance Fund does not appear to have much more in the way of a guarantee that benefits will be paid than does the type of trust fund initiated for the United Mine Workers or the International Brotherhood of Electrical Workers.

These three plans are outlined in Table II. The plans illustrate the type initiated and administered under union auspices. There are three main specifications that might be noted about each of these plans.

(1) *Eligibility.* Each plan requires that members of the union must have completed a certain minimum number of years service and have attained a certain age as a condition for the receipt of pension benefits. The three essential points to note here are: first, that of membership in the union; second, the years of

TABLE II

BRIEF OUTLINE OF CERTAIN PENSION PLANS COVERING UNION MEMBERS

Union	Eligibility for Benefit	Benefit Formula	Funding Arrangement	Administration
1. United Mine Workers	Age 62 and 20 years of membership (also certain disability benefits).	$100 monthly	30c per ton of coal	Trust Fund Three Trustees
2. International Brotherhood of Electrical Workers	Age 65 and 20 years of membership.	$50 monthly	60c monthly per member plus 1% of payroll from contractors.	Trust Fund for 1% portion. Pension Board of 15 members.
3. Clothing Workers, Amalgamated, CIO	Age 65 and 20 years of service (including 10 years of membership) or if disabled, age 60 and 20 years of service (including 10 years of membership).	$50 monthly	3% of payroll	Annuity underwritten on year to year basis by the Amalgamated Insurance Fund.

TABLE III

OUTLINE OF PENSION PLANS COVERING EMPLOYEES IN INDUSTRY

Industry	Eligibility for Benefit	Benefit Formula	Funding Arrangement	Administration
1. Automotive				
a. Ford	Age 65. If disabled, 15 years of service and age 50.	$125 monthly, reduced pro rata for less than 30 years, less PIA[1]. If disabled, $3 monthly per year of service (minimum $50, maximum $90).	Normal cost plus 30 year budget for past service[2].	Trusteed
b. General Motors	Age 65. If disabled, 15 years of service and age 50.	$1.50 monthly per year of service up to 30 years. If disabled, $3 monthly per year of service (minimum $50, maximum $90).	Normal cost plus 30 year budget for past service.	Trusteed
2. Steel Industry				
a. U. S. Steel, Bethlehem & Larger Companies	15 years of service and age 65, or after 15 years of service if disabled.	1% per year of service of last 10 years average earnings but not less than $100 monthly (reduced pro rata for less than 25 years of service) less PIA[1].	U. S. Steel—Normal cost plus interest on past service. Bethlehem—Terminal funding. Certain other companies — Pay-As-You-Go.	Trusteed
b. Certain Smaller Steel Companies	10 years of service and age 65, or after 15 years of service if disabled.	Whatever 6c an hour will provide.	6c per hour of work.	Trusteed

[1]Primary Insurance Amount payable under the Social Security Act.

[2]Ford benefit formula tentatively agreed to with the Union before the 1950 Amendments to the Social Security Act was $100 inclusive of PIA and 8¾% per hour was the specified funding arrangement.

service requirement; and third, the age requirement. In each case 20 years of service is required, and in two of the three cases, age 65 is required. The age 65 requirement is probably more logical than age 60 because age 65 is the earliest age at which Social Security benefits commence.

(2) *Benefits.* The benefits provided under each plan are not related to earnings and are not adjusted upward or downward because of service. Any member with 20 or more years of service gets the same benefit whether he has had 20 years of service or 40 years of service. Another important point to note is that there is no offset in the benefit because of any amount that might be payable under Social Security. Two of the plans provide for a flat $50 a month benefit and the third one provides for a flat $100 a month benefit.

(3) *Funding.* It is important to appreciate that the funding of the benefits is not related to the costs of the benefit. For example, in the case of the Clothing Workers Plan the funding is based upon 3% of pay. Naturally what 3% of pay will provide in the way of benefits depends upon the magnitude of the pay and also eventually on the ages of those pensioned as well as the length of time they continue to live and receive pensions.

On the basis of $3,000 a year average pay, the 3% will provide so much, but on the basis of $6,000 a year average pay the 3% could provide about twice as big a benefit. Also, the 30¢ per ton of coal mined as a medium of funding is unrelated to the cost of benefits, for it should be apparent that the amount of benefits which may be provided must be related to the number of tons of coal which are mined. It may be convenient to think of funding a specified flat benefit on the basis of a unit of production or percentage of pay, and at a certain point in time such a relationship may be approximately correct. However, at a later point in time when the actual experience of a group begins to unfold, this relationship is very apt to have changed. This has been emphasized in recent years by the change in funding for the United Mine Workers Plan from 5¢ per ton to 30¢ per ton of coal mined.

Float 5

Pension Plans Covering Union Members in a Particular Company. This is the most recent development in the field of pensions. Following World War II there were a number of so-called rounds of wage increases and then when the inflationary quality of such increases had been recognized, some other avenue was sought by the unions. Some unions decided to try for pensions. The companies at first did not feel that this was a proper subject for bargaining. However, the decision of the National Labor Relations Board in the case of the Inland Steel Company in 1948 was that management must bargain on pensions if the union demanded pensions. This decision was affirmed by the United States Court of Appeals at Chicago when the United States Supreme Court refused to review the ruling; consequently, the ruling became the current interpretation of the law.

The unions were probably interested in winning pensions from the employers for two main reasons. Perhaps a primary reason was to be able to say to the members that something of value in lieu of a wage increase had been won from the employers. However, a second reason which may have been in the background (but which may come to assume more and more importance) is that the union was trying to shift the responsibility for pensions and for the payment of pensions to the respective employers. This is an important point to appreciate and is probably one of the main distinctions between the plans covering union membership and those plans covering union members in individual companies which will be described hereafter.

In many instances the employer has tried to limit his liability for pensions, but we feel that it seems reasonably clear to union members that the source of funds from which pensions are to be paid will come from the respective employers and not from union funds, and so the responsibility for meeting the pension payments is that of the employer. Yet in the final analysis, all such payments may be part of wages, and it may be said that the employees pay.

In September of 1949 the Fact Finding Board presented a report to the President of the United States on the labor dispute in the basic steel industry. An essential part of this report with respect to pensions is as follows:

". . . The questions as to whether the payments should be a uniform flat one or should vary with the years of service and the rate of earnings, and whether there should be a minimum number of years to qualify for a pension, and what that minimum should be—all these questions should, we recommend, be left to collective bargaining after a full study has been made of all these factors.

". . . It is the Board's recommendation that at the outset the cost be limited to $120 per year per employee or 6 cents per hour for a 2,000-hour year, and that the parties

undertake to buy as much in pension benefits as this figure will cover.

"On the basis of the union's estimate, if the parties finally agree, e.g., on a flat sum for all workers, we estimate that 6 cents per hour on a 2,000-hour year would bring about $70 per month, which when added to the average amount now payable under the Social Security Act will provide somewhat more than $100 per month on retirement. . . ."

Shortly after the results of this report were made known, the Ford Motor Company agreed with the United Automobile Workers on a pension plan which would provide a $100 a month pension inclusive of Social Security. However, the stated cents-per-hour cost of this plan was 8¾¢ in lieu of the 6¢ per hour level indicated in the steel report. Then Bethlehem Steel, United States Steel, and other major producers settled with the United Steel Workers for a pension plan which provided somewhat more liberal benefits than those agreed to by Ford. Also, a number of smaller steel companies settled with their locals on the basis of what 6¢ an hour might provide in the way of pensions.

The main types of plan adopted in the automotive and steel industry for union members are briefly outlined in Table III. In Table IV illustrative monthly benefits payable under these respective plans are shown. Certain points which might be brought out in connection with the provisions and benefits shown in Table III and IV are as follows:

1. *The plans are adopted on an individual company basis.* This means that if an employee leaves one company and goes to another company (even though in the same industry) he loses credit for service and contributions that may have been made on his behalf in the first company. The second company only assumes the responsibility for his benefit credits that emerge on the basis of service rendered after his transfer. This differs considerably from three Union plans in which membership in the Union is the main requirement with no loss of service credit because of transfer from one participating employer to another.

2. *Eligibility*—Benefits commence after age 65 when Social Security benefits become payable (unless an employee becomes disabled at an earlier age and after the completion of a minimum number of years of service, and, in the case of the automotive plans, after the attainment of a certain minimum age). This is similar to the eligibility requirements in union plans described herein.

3. *Benefits* — The benefits are based upon years of service, and, in the case of the plans adopted by the big steel companies, earnings may also enter into the benefit determination. However, in the case of the big steel and Ford type of plan there is a Social Security offset involved. The original Ford benefit formula was $100 a month inclusive of Social Security but this was increased to $125 a month inclusive of Social Security after the Social Security benefits were liberalized in 1950.

TABLE IV

ILLUSTRATIVE MONTHLY PENSION BENEFITS

(Assuming Average Monthly Earnings of $250)

No. of Years Service at Retirement	PIA[1]	Ford Formula[2]		Bethlehem Steel Formula[3]		General Motors Formula[4]	
		From Plan	Total (2) plus (3)	From Plan	Total (2) plus (5)	From Plan	Total (2) plus (7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
15	$72.50	.....	$72.50	.....	$72.50	$22.50	$95.00
20	72.50	10.83	83.33	$7.50	80.00	30.00	102.50
25	72.50	31.67	104.17	27.50	100.00	37.50	110.00
30	72.50	52.50	125.00	27.50	100.00	45.00	117.50[5]
35	72.50	52.50	125.00	27.50	100.00	45.00	117.50[5]
40	72.50	52.50	125.00	27.50	100.00	45.00	117.50[5]
45	72.50	52.50	125.00	40.00	112.50	45.00	117.50[5]

[1]Primary Insurance Amount payable under Social Security.

[2]$125 monthly (reduced pro rata for less than 30 years of service) less PIA.

[3]1% of earnings per year but not less than $100 (reduced pro rata for less than 25 years of service) less PIA.

[4]$1.50 monthly per year of service up to 30 years (but not less than $4 monthly per year of service up to 25 years, less PIA).

[5]If an employee earns $300 a month, the PIA becomes $80 monthly, and the total benefit under the G. M. formula becomes $125 monthly. The net benefit payable under the G. M. formula would remain the same, but the net benefit payable under the Ford formula or the Bethlehem formula would be decreased by the increase in PIA.

4. *Funding*—Because of the responsibility to provide the pension benefits which is being assumed by the respective companies, the funding arrangements being followed are related more to the cost of the type of plan involved than to a certain cents-per-hour result. Except for the 6¢ an hour plan, whereby the benefits are determined by whatever 6¢ an hour will provide, the costs are not generally stated specifically. What is usually stated, however, is the underlying actuarial method which will be used in funding the benefits.

Float 6

Funding Methods and Illustrative Costs. In Table V the levels of cost are set forth for a particular group of employees. These levels of cost are for a number of plans. The costs shown in Table V illustrate average costs per employee involved. Whereas the group of employees you may be interested in may have some of the characteristics of this group, it is very unlikely that your group would have all of them. The determining characteristics are the age composition, the service composition, the composition by sex and race, the level of earnings, and also the various local conditions and customs which might have a bearing on the determination of pension costs.

In Table V illustrative costs have been shown for five different types of benefit formulas. Formula 1 is basically the General Motors type of benefit formula. Formula 2 is the flat $50 monthly pension and is similar to the Clothing Workers plan except that the amount of benefit is reduced pro rata for less than 25 years of service at retirement. Formula 3 is the Ford type of benefit formula of $100 monthly before it was liberalized to take account of the new level of Social Security benefits. However, you will note here that the $100 benefit is reduced pro rata for less than 25 years of service in lieu of the 30 year base used in the "old" Ford formula, and from this net amount is then deducted the Social Security benefit. Formula 4 is the "new" Ford type of formula of $125 monthly which was put into effect after the Social Security benefits were liberalized, but with the same modification as indicated for Formula 3 with respect to reduced benefits for less than 25 years of service in lieu of 30 years.

Formula 5 has not been followed

TABLE V

ILLUSTRATIVE COSTS OF CERTAIN PENSION FORMULAS

	Formula 1		Formula 2		Formula 3		Formula 4		Formula 5	
A. Formula:—	$1.50 Monthly per Year of Service Up to 30 Years[1]		$50 Monthly[1]		$100 Monthly Less PIA[2]		$125 Monthly Less PIA[2]		1% per Year of Earnings[2]	
B. Initial Total Annual Cost ("Normal" Cost plus budget for "past service")	Annual Amount Per Capita	Cents-Per-Hour[3]	Annual Amount Per Capita	Cents-Per-Hour[3]	Annual Amount Per Capita	Cents-Per-Hour[3]	Annual Amount Per Capita	Cents-Per-Hour[3]	Annual Amount Per Capita	Cents-Per-Hour[3]
(1) If past service is amortized at 10% per year	$210	10.5c	$242	12.1c	$125	6.3c	$234	11.7c	$405	20.2c
(2) If past service is amortized over a 30-year period	148	7.4	167	8.4	91	4.5	165	8.3	284	14.2
(3) If interest only is paid on past service	122	6.1	136	6.8	76	3.8	137	6.8	233	11.7

C. Basic Assumptions:—
(1) Composition of Employees by Age

Age Group	Proportion of Employees in Age Group	Average Annual Earnings
Under 35	42%	$2,800
35 - 50	30	3,100
50 - 65	25	3,200
65 & Over	3	3,000
All Ages	100%	$3,000

Average Age = 40

(2) 1937 Standard Annuity Mortality Table.
(3) 2¼% interest compounded annually.
(4) Normal Retirement at age 65 (or in one year for those over age 65). If retirement is on the average at age 66 in the future the above costs might be reduced by about 7%.
(5) A moderate rate of withdrawal for ages under 50. A somewhat higher rate of withdrawal was used for females than for males.
(6) A modest rate of disability. Whether a strict or loose method of administering this benefit is used will determine its ultimate cost
(7) No margin included for administrative expenses. An appropriate margin might be about 4% of the net costs indicated above for groups of sufficient size.

[1]Benefits commence at age 65, or earlier under certain conditons ($60 monthly after age 50 and 15 or more years of service, subject to total and permanent disability).

[2]Same as [1], but disability benefit is $60 monthly after age 55 and 15 or more years of service. If less than 25 years of service at retirement, full benefit is reduced pro rata, from which is subtracted the PIA (Primary Insurance Amount payable under Social Security).

[3]On the basis of a 2,000 hour work year. If the work year were only 1,800 hours, these cents-per-hour results would be 10% higher.

by any of the labor settlements. It is the more traditional or classical type of benefit formula without any Social Security offset and based upon 1% of earnings per year of service. Without taking into account the Social Security benefits as an offset, it is interesting to note that the level of cost for Formula 5 is higher than the level of cost for any of the other four benefit formulas.

An important element in the initial levels of cost is the method adopted for funding the "past service." The "past service" may be defined as that portion of total cost not paid for by future "normal" costs. In other words, the "past service" represents the accumulation of "normal" costs attributable to those years in the past when there was no plan. Consequently, the initial total annual cost per employee may include an amount representing the "normal" cost and also a payment towards budgeting the "past service."

In Section B of Table V the costs have been shown on three bases: (1) on the assumption that "past service" is amortized at 10% per year (the maximum permitted as a tax deduction by the Bureau of Internal Revenue); (2) on the assumption that the "past service" is amortized over a 30-year period (the funding basis agreed to with the United Automobile Workers by Ford and General Motors); and (3) on the assumption that interest only is paid on the "past service" such that there will be no increase because of interest on this item (the funding basis which we understand is being used by United States Steel).

The cents-per-hour result has been a popular cost index in recent years. Consequently, the cents-per-hour results are shown beside the annual per capita costs. However, it should be appreciated that the cents-per-hour cost index is not a very stable relationship. It can only reflect the situation at a particular time on the basis of a given average work year involving a certain number of hours. 2,000 hours has been used for purposes of illustration in Table V, but if the work year is only 1,500 hours in some future year, for example, the cents-per-hour results would be increased by one-third. The more stable cost index is the average per capita cost.

It is impossible actuarially to set the level of both benefits and costs. If the level of benefits can be set, then future experience will determine the level of costs. The approach used in many of the automotive settlements has been to agree on a level of benefits and a method of funding the benefits. The type of wording frequently used in the settlements is as follows:

"The Corporation agrees to pay over irrevocably to the Trustee or insurance company, as of the effective date of the Plan and as of each anniversary thereof during the period of this agreement, contributions or payments for the pension plan in the amount of the sum of (i) and (ii) below as determined and certified as of such effective date and each such anniversary date by one or more actuaries chosen by, but independent of, the Corporation, and qualified through Fellowship in the Society of Actuaries (hereinafter referred to as the actuary).

"(i) The annual 'current service' or 'normal cost' contribution attributable to a year's cost accruals in respect of assumed continuous service after the effective date or after each such anniversary date, as the case may be.

"(ii) The 'prior service contribution' computed as that part of the present value, at the effective date and each such anniversary date, of the prospective pensions payable under the Plan for employees and pensioners then covered by the Plan which is in excess of:

"(aa) the value of the trust fund, as then comprised of any contracts and total other assets, invested and uninvested, such total assets being valued on a basis at least equal to the total cost thereof, plus

"(bb) the then present value of the prospective 'current service' or 'normal cost' determined by the actuary in accordance with (i) above, such excess part being divided by a factor so chosen that such excess part together with the compound interest thereon would be estimated to be met in full by the thirtieth anniversary of the Plan."

Table VI has been prepared to show in the form of a graph the annual

costs of a pension plan on the basis of several different methods of funding. The pension plan formula used as a basis for this graph is Formula 4 in Table V. It provides a pension benefit of $125 monthly less the Primary Insurance Amount payable under Social Security. However, no attempt has been made to take into account possible disability or early retirement benefits that might become payable under the benefit formula as described in Table V. Retirement is assumed to take place at age 65. Also, it is assumed that there are 500 employees in the group, and the group was assumed to have the same characteristics as the group used for the purpose of determining the illustrative average per capita costs shown in Table V.

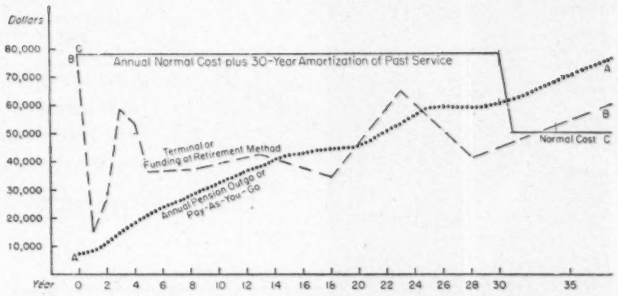


TABLE VI. Graph of Pension Plan Costs by Certain Methods of Funding. Basis: Benefit Formula 4 from Table V, $125 monthly less PIA from age 65, for 500 employees following age and service composition as shown in Table V. No disability benefits or costs thereof included.

The dotted line (AA) in Table VI represents the amount of pension disbursements each year payable to employees who have retired from the original group of 500. In the first year, the level of annual pension payments is some $7,500; in the tenth year this will have grown to about $32,000; and in the 30th year it might become about $60,000. This might level off ultimately at about $75,000 to $100,000 a year or a cost of $150 to $200 per year for each of the 500 active employees. However, this is not a method of funding since no fund is built up in excess of benefit payments. It is simply a payment of pensions as they fall due, commonly referred to as the pay-as-you-go method.

There is no assurance to retired employees in the form of a fund that benefit payments can or will be made in the future. The lack of security is a main reason why this pay-as-you-go method has not been followed in very many of the plans that have been initiated on a formal basis. There are many other reasons too; one apparent reason is that the costs on this basis are ultimately higher than they would be if some advance funding method is used. This is because under an advance funding method, both the higher early payments to the fund and the interest earned by the fund help to reduce the ultimate "cost" of the pensions.

The broken line (BB) on the graph illustrates the one-sum funding at retirement method or terminal method of funding. This method of funding is being used by a number of steel companies. Under this method the one-sum amount necessary to pay the lifetime retirement benefit is determined for each person who retires. Then this amount is put into the fund, and some of the objections are removed. There is some assurance by reason of the fund thereby created that retirement benefits will be paid although the company may go out of business. However, there is a major objection to this type of funding which is brought out by the graph.

Note how jagged this line (BB) is. We made the computation after the first 5 years by 5-year age groups, and there was considerably more smoothing after the first 5 years than would probably actually be the case. In the first year the one-sum amount required to fully fund those employees age 65 and over was by coincidence just equal to the level indicated by the third method of funding (to be discussed next). However, in the following years the amounts to be set aside were naturally determined by the numbers of employees attaining age 65 and the amounts of benefits to be funded for them.

For other groups there might be a smoother progression from year to year, but although this could be the case, there is a stronger reason of an economic nature why the progression would not actually be very smooth. In depression years there would likely be more pressure for retiring employees at the very time when the company can least afford to pay large amounts into a fund. In good years or in war years there would not be the pressure to retire employees (and this when the company could best afford to put money into a fund). Also, nothing has been built up in respect of active employees.

Consequently, let us look at solid line (CC). This represents the normal cost plus the 30-year budget for past service approach which is currently being used by many companies in funding their negotiated pension plans. (We have again assumed a constant group of 500 active employees). After 30 years, the past service is paid up and the level of costs becomes lower than under the other two methods of funding. The costs are lower then because a larger fund has been built up, and the interest from this fund is available to help provide the pension benefits.

It should be noted, also, that this is an extremely flexible method of funding. In good years considerably *more* than the normal cost plus the 30 year budget towards past service may be put into the fund. In poor years considerably *less* than the normal cost plus the 30-year budget may be put in the fund. The solid line is shown merely to indicate the level of annual costs *if* the 30-year budget were adhered to strictly.

In Table VII another graph indicates the fund development on the basis of the two methods of advance funding. The fund that emerges after 30 years on the basis of the "funding at retirement" method is from one-third to one-fourth of the fund developed on the basis of paying the normal cost and amortizing the past service over the 30-year period. The reason is primarily this: in the first case the fund represents reserves only in respect of retired employees; in the second case the fund represents reserves not only for the retired employees but also for active employees.

Ultimately, on the basis of fully funding the past service, the fund might level out at about $2,000,000. This would mean that the interest of about $45,000 (at 2¼% of $2,000,000) plus the normal cost of about $50,000 would exactly balance the ultimate pension outgo, on the average, of something less than $100,000 per year. In other words, the interest

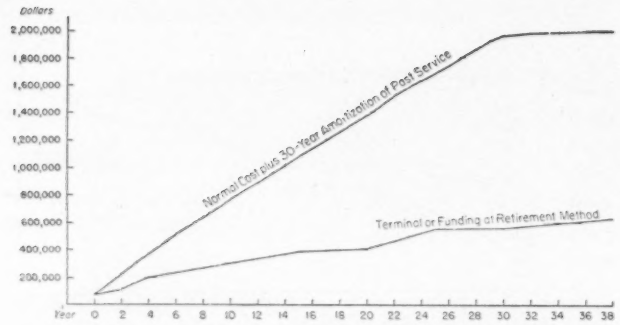


TABLE VII. Graph of Fund Development by Two Methods of Funding. Basis: Level of benefits and costs shown in Table VI for group of 500 active employees and retirements from the group. Benefits of $125 monthly less PIA. No disability benefits or funding thereof included.

from a fund can go a long way towards supporting the pension load, and the fund itself provides considerable assurance that the pension benefit payments will be met.

Float 7

Plans Already In Effect. Your company has a pension plan, let us say. The union is establishing a pattern that is completely different from your pension benefit formula. Your employees may be union members, in which case your problem may be more acute than if they were not union members. But what to do is the question. In the steel and automotive industries this problem has been faced, but there has been no uniform answer. There are a number of possible solutions.

If the pension plan your company already has in effect covers just the non-union employees, it might be acceptable to adopt a second separate plan following the union pattern. One plan would cover the union members and the other would cover the non-union employees. But this might require some change in the pension plan you already have; that is, if the basic union type of plan is to be integrated with your present plan on some reasonable basis. Also, it is generally advisable to have no more than two plans, one covering the union members and the other covering the non-union members. This would mean changing the plan covering the non-union employees so that it would integrate properly with the union formula.

Let us consider the problem of the company with one plan covering union and non-union employees on the same basis. This is more complicated. The union wants a different type of benefit formula for its members. What might be done is this: A plan may be set up for union employees as required, and benefits under the union plan may be offset by benefits already vested under the old plan. The membership of union employees in the old plan could be terminated. The funds held under the old plan would either be released for application against future costs of the old plan in respect of the non-union group or the funds might be transferred to the union plan. This latter course might not be as simple as the former course.

What might be the form of the finally worked out pension program? Let us say that the union pattern is $125 monthly inclusive of Social Security. This type of plan might have to be adopted for the union members in order to secure agreement with the union. Then for the non-union group it might be advisable to adopt the same sort of basic benefit formula and to supplement it with an additional benefit based on a percentage of earnings in excess of $3,600 (such as 1% of such earnings for each year of service). Any benefits under a present plan could then be used to offset the benefits to be provided under the new plan.

Conclusion. This is not a short parade. It is not yet over. The floats to come will require study and engineering with qualified assistance before they can be displayed in any simple fashion.

Pensions have been in operation in England for perhaps a century and in the United States for more than a half century. They serve many purposes. They appeal to the employer, the employee, and the public from different angles. For the employer particularly they may reward length of service as men are superannuated and make room for promotions. They regularize special provisions commonly provided without the formal plans. They increase morale, reduce turnover, involve certain tax relief for the employer particularly in war time, and provide cooperation in behalf of the employees' thrift programs.

From the employee point of view they represent a special reward for length of service at retirement (avoiding the aspect of charity or relief), sometimes correct previous low wage situations, create an incentive for continued employment, and represent an achievement reward at the end of the employment period. A community recognizes that their use reduces relief requirements, maintains purchasing power, improves overall industrial relations, increases job permanence, and serves to check federal expansion into too wide a territory.

An attempt has been made to show only enough of the problems involved to suggest some of the implications. No consideration has been given to whether or not employees should contribute toward pensions nor, if so, how much—basic issue of the steel strike in 1949. No comments have been brought forth on the question of the medium of financing—whether insured or trusteed. In so important an area, the selection of certain illustrations tends to give to those illustrations too much weight.

The problems are changing rapidly. For instance, official rulings with respect to pensions on what the wage and price freeze as of January 25, 1951, may mean are not yet promulgated. They may represent one more important float requiring further consideration.

OFFICERS OF ACMI

President: Charles C. Hertwig, Bibb Mfg. Co., Macon, Ga.
Exec. Vice-Pres.: Robert C. Jackson, Charlotte, N. C.
1st Vice-Pres.: W. A. L. Sibley, Monarch Mills, Union, S. C.
2nd Vice-Pres.: H. K. Hallett, Kendall Mills, Charlotte, N. C.
Sec.-Treas.: F. Sadler Love, Charlotte, N. C.

President Hertwig

2nd annual ACMI meeting

Textile Men Study Defense Efforts

Staff Report

CHARLES C. HERTWIG of Bibb Manufacturing Company is the new president of the American Cotton Manufacturers Institute. He was elected at the second annual meeting of the institute, held at White Sulphur Springs, West Virginia, March 29-31.

Nearly 900 industry representatives and allied suppliers attended the working convention, where they heard textile spokesmen declare that the textile industry would produce to its utmost and carry its full share of the load in the mobilization program—despite the many restrictions which will confront all industry in the immediate future.

The ACMI, formed by the amalgamation of the former Cotton Textile Institute and American Cotton Manufacturers Association, already has expanded its efforts in serving the textile industry by closer coordination with government agencies, relocation of personnel, and an enlarged staff.

Although the industry members cannot agree with many of the government policies and regulations which have been instituted in recent months, they did get a better appreciation of the handicaps under which such agencies as NPA and OPS are required to operate, and they seemed to feel that in most instances the agencies are endeavoring to perform a real service for both government and industry.

Highlights from convention addresses and discussions follow:

Task of Textile Industry in Preparedness Program. During World War II the textile industry furnished the armed forces more than 11,000 different types of items. The task of the industry is to produce the goods necessary to win the limited war and to insure victory in any future war. It must be the objective of the textile industry that no American soldier, seaman, or airman goes into battle with insufficient equipment because of any negligence on the part of the industry.—George P. Swift in ACMI president's annual address.

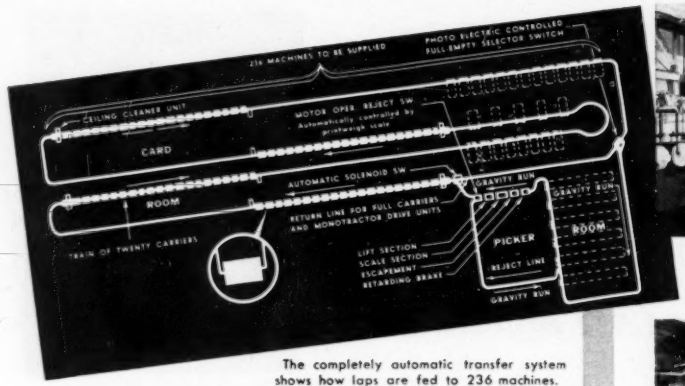
Officials of NPA and OPS Explain Policy and Actions. An open forum and panel discussion was held, with representatives of National Production Authority and Office of Price Stabilization answering questions from the ACMI members. Highlights of the presentation were:

(1) The primary function of the agencies is to supply what the defense services need, with as little disturbance to the civilian need as possible; orders may have to be given which are not relished by industry [to accomplish the foregoing] but it is hoped that they will be taken in the proper spirit.

(2) Before issuing orders, government agencies will have consultation with industry representatives in an endeavor to follow

ACMI Stand On Price Controls

Price controls cannot prevent inflation. All controls, therefore, should be considered as temporary expedients in a transition period and terminated at the earliest practical date. So long as they are in effect they should be so administered as to minimize damage to the competitive spirit.—Resolution.



The completely automatic transfer system shows how laps are fed to 236 machines. Individual laps are held until a train of 20 has been made up, and then the train travels as a unit to the banks of machines.

CONTINUOUS AUTOMATIC LAP DELIVERY

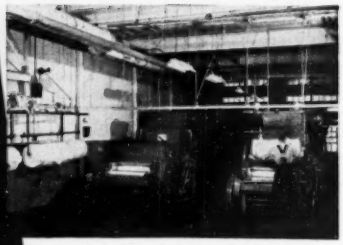
PROBLEM: To move laps to many stations without distorting their shape.

SOLUTION: A completely automatic American MonoRail transfer system.

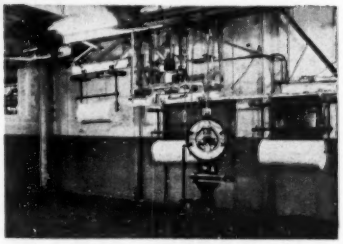
RESULT: An overhead handling system that automatically keeps 236 machines continuously supplied with material and requiring no attention.

This unique American MonoRail installation, in the Borden Mills, Kingsport, Tenn., above and beyond the expected advantage of lower handling costs, has resulted in: (1) An assured supply of good laps with no machines standing idle; (2) No floor wear; (3) No damage or distortion of laps; (4) Elimination of lap waste, and (5) Clean ceilings. The team of 20 carriers traveling over cards—pushed by an American MonoRail MonoTractor—also propels a ceiling cleaner.

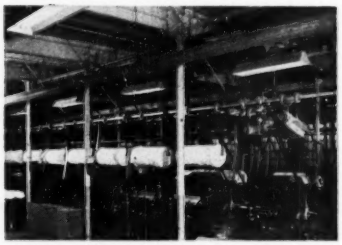
An American MonoRail engineer will gladly explain time and money-saving advantages of overhead handling systems at a time convenient to you. Please write us.



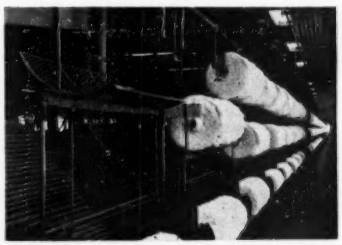
1 Carrier manually loaded at pickers; all subsequent handling entirely automatic.



2 Weight checked within 1½ lb. tolerance. Off-weight laps rejected—full-weight laps delivered to card room—all automatic.



3 Train of 20 carriers travel over cards—pushed by MonoTractor which also propels ceiling cleaner.



4 Lap automatically deposited in receiving tray. Weight of lap lowers tray, allowing passage of following carriers.

THE AMERICAN MONORAIL COMPANY

13106 ATHENS AVENUE **CLEVELAND 7, OHIO**

industry's recommendations . . . desire is present on part of NPA to cooperate with industry to fullest extent.

(3) Issued orders may be subject to revision according to changing conditions and recommendations. Agencies will attempt to act with enlightened judgment rather than arbitrarily; if regulations are wrong, it will be indicative of failure by industry to present proper facts.

(4) Twenty-three textile industry advisory groups already have been set up; five more may be organized.

The Quartermaster Viewpoint on Textile Supplies. Civilian and army demands may bring the temptation to let someone else take the government business. Let no one yield to that temptation. The government is a good customer, and the government is good credit.

The situation today with reference to certain items of clothing is more serious than it was ten years ago . . . armed forces depend upon industry to meet the full military requirements.

The procurement of the principal carded cotton fabrics (with exception of duck and webbing) pose no serious productional difficulty. QM shortages in fine combed goods are serious . . . and in some instances specifications have been changed to permit mills to fill requirements (lower yarn numbers and reduced pickage).

The peace-time production of cotton duck is not sufficient to meet war-time requirements nor the requirements of the present accelerated military program. It is essential that large scale conversion be effected on looms engaged in civilian production of rugs, carpets, upholstery, drapery, and pile fabrics; even this will not provide enough capacity, both from loom scarcity and shortage of twister spindles . . . so other looms must be brought into duck production (e.g. those now on denims, heavy sheeting, ticking, drills, etc.) with fabrics from such looms finding use when treated with weather resistance formulas.

Although at present it appears that the lighter fabric requirements are being met and that requirements for heavier types of duck are not being met, the situation would be entirely reversed if and when requirements are based on "all out" mobilization.

End-use manufacturers (who formerly purchased fabrics direct for cutting) are unable to obtain necessary duck and webbing, so QM is being requested to furnish these items to them . . . but serious difficulties are being experienced in this respect.

Under the research and development program, all aspects of con-

(*Continued on page 239*)

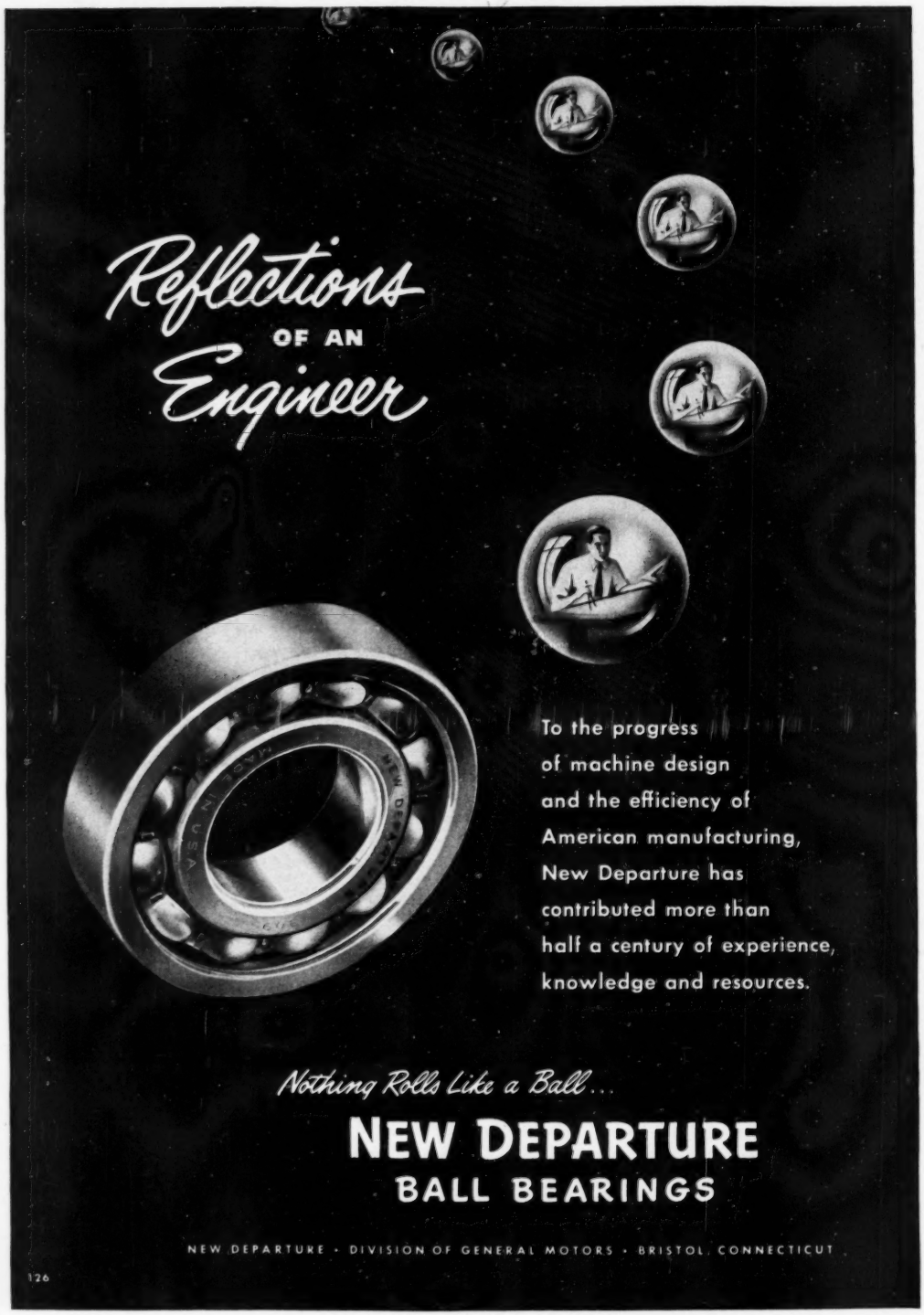
Can You Make These for Defense?

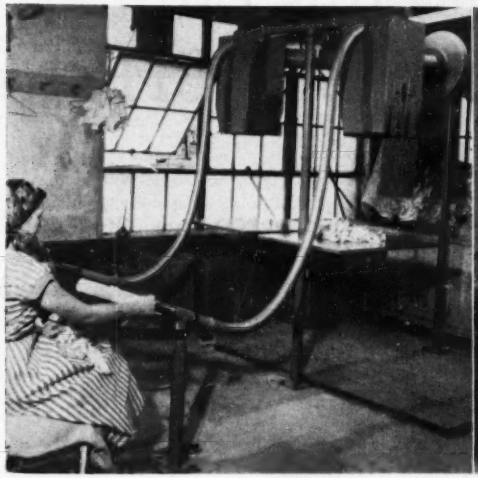
Quartermaster List of Critical Fabrics and Supply Items

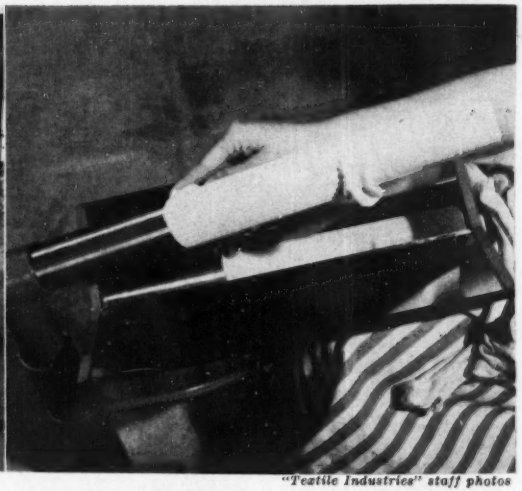
The accompanying list is of critical fabrics, urgently needed by the Quartermaster Corps. If your mill can make them, get in touch with Commanding General, New York Procurement Agency, 111 East 16th St., New York 3, N. Y.

(The recently published specifications, Textile Series Report No. 67, will be a helpful addition to a textile mill's library, available from above address or Office of Technical Services, U. S. Dept. of Commerce.)

THE CLOTH	SOLDIER ITEMS MADE FROM THIS CLOTH
Drill, 7.5 oz., unbleached *(Specification number: MIL-C-300A)*	Field Jackets, Kahki Trousers, Cotton Field Trousers (OD)
Herringbone, Twill, 8.5 oz., OD 7 *(Specification number MIL-C-154A)*	Jackets, Suits, Trousers, Caps
Oxford, WRS, 6.5 OD-7, VAT, WRP *(Specification number: MIL-C-484A)*	Field Jackets, Sleeping Cases
Sheeting, 3.9 oz., unbleached, FWWMR *(Specification number: MIL-C-485)*	Liners for Tents
Twill, WRS, 5 oz., OD VAT, WR-MR-FR *(Specification number: JAN-C-304)*	Tents
Twill, Uniform, 8.2 oz., Type I, KH *(Specification number: MIL-C-298A)*	Kahki Shirts, Kahki Trousers, Kahki Caps
Cloth, Cotton, Sheeting, bleached *(Specification number: JAN-C-485)*	Pillowcases
Cloth, Cotton, Sheeting, Unbleached *(Specification number: JAN-C-485)*	Sheets
Ticking, 7 oz. *(Specification number: CCC-T-351)*	Mattresses
Ticking, 9 oz. *(Specification number: CCC-T-351)*	Pillows
Cloth, Cotton, Print, 3.2 oz. bleached, shrunk *(Specification number: JAN-C-299)*	Drawers (Shorts)
Interlining, Cotton, permanent finish, 6 oz. tan *(Specification number: MIL-J-10801 (QMC))*	Interlining for Jackets, Coats, Overcoats
Interlining, Cotton, Wigan, 2.8 oz. *(Specification number: MIL-J-10801 (QMC))*	Interlining for Coats and Overcoats
Interlining, Cotton, Worsted, Spun, Hair Filling, Unbleached, 7 oz. *(Specification number: JAN-C-297)*	Interlining for Jackets, Coats, Overcoats, Caps
Interlining, Cotton, Worsted, Spun, Hair Filling 8.5 oz. Unbleached *(Specification number: JAN-C-297)*	Interlining for Jackets, Coats, Overcoats, Caps
Duck, Cotton, No. 6 *(Specification number: MIL-D-10861 (QMC))*	Bedding Rolls, Ammunition Bags, Parachutist Equipment Bags Tents, Paulins
Duck, Cotton, No. 8 *(Specification number: MIL-D-10861 (QMC))*	Folding Canvas Basins, Duffle Bags, Parachutist Medical Pouch, Dispatch Cases
Duck, Cotton, No. 10 *(Specification number: MIL-D-10861 (QMC))*	Field & Cargo Packs, Duffle Bags, Cartridge Pockets
Duck, Cotton, 8.25 oz. *(Specification number: MIL-D-10861 (QMC))*	Bags for Carrying Valuables, Combat & Cargo Pack, Shelter Halves (Pup Tents), Parachutist Equipment Bags, Dispatch Cases
Duck, Cotton, 9.85 oz. *(Specification number: MIL-D-10861 (QMC))*	Tents, Rucksacks
Duck, Cotton, 12.29 oz. *(Specification number: MIL-D-10861 (QMC))*	Tents
Webbing, Cotton, Type I *(Specification number: JAN-W-530)*	Straps, Cartridge Belts, Tents, Field Packs, Cargo & Combat Packs
Webbing, Cotton, Type 2 *(Specification number: JAN-W-530)*	First Aid Packet, Tents, Cartridge Belts, Bag for Rocket M-6
Webbing, Cotton, Type 2A *(Specification number: JAN-W-530)*	Combat Field Pack, Tents, Cartridge Belts, General Purpose Carrying Straps
Webbing, Cotton, Type 3 *(Specification number: JAN-W-530)*	Folding Cots, Cargo Field Packs, Rucksacks, Tents, Cartridge Pockets
Osnaburg *(Specification number: CCC-O-721)*	Substitute for Burlap
All Cotton and Nylon Filled Webbing *(C-8 and C-10)*	Miscellaneous Air Force Uses


Reflections
OF AN
Engineer
To the progress
of machine design
and the efficiency of
American manufacturing,
New Departure has
contributed more than
half a century of experience,
knowledge and resources.
Nothing Rolls Like a Ball...
NEW DEPARTURE
BALL BEARINGS
NEW DEPARTURE • DIVISION OF GENERAL MOTORS • BRISTOL, CONNECTICUT
126





"Textile Industries" staff photos

THE HOSIERY TURNING APPARATUS consists essentially of two vacuum tubes, operated by a one hp electric motor-powered blower; two sock receiving chambers, equipped with dozens counters and counterbalanced doors.

INSPECTING EQUIPMENT is optional and for use when turning and inspection are combined operations. Mirrors are on adjustable mount and provide clear view of each sock at close range.

Pneumatic Hosiery Turner

Staff Prepared

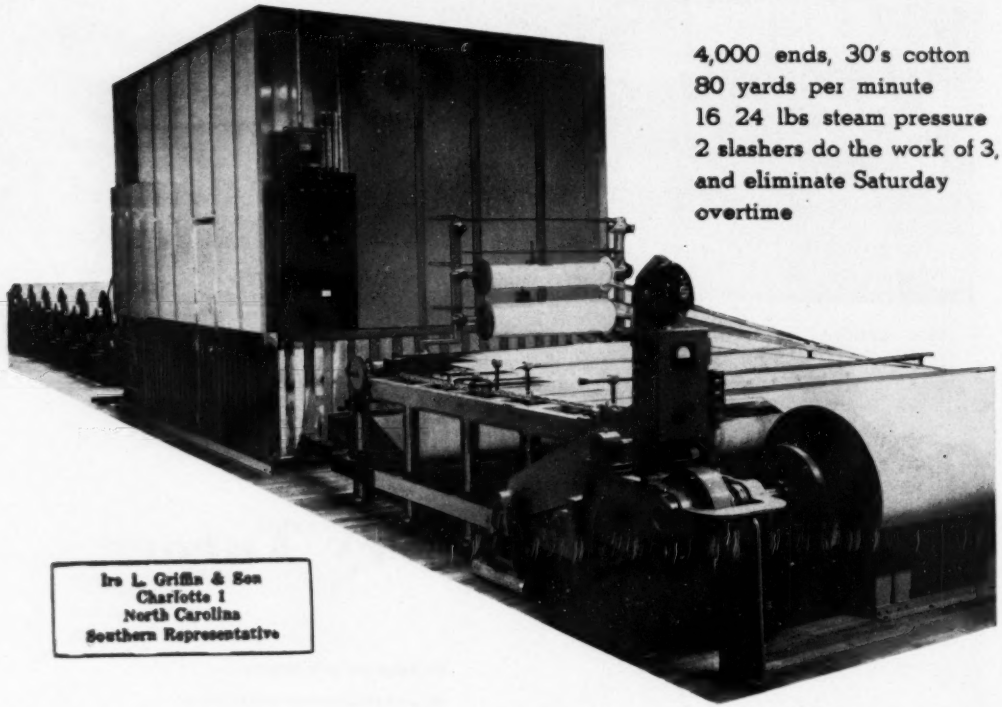
EXCLUSIVE

- **conserves labor**
- **increases production**
- **less tiring to operatives**
- **improves operative's morale**
- **simplifies turning operation**

A PNEUMATIC machine, designed to aid in performing the inspection and turning operations on anklets, slacks, crew socks, infants', etc., between looping and dyeing, is in use at Unique Knitting Co., Acworth, Ga. Developed and invented by Joseph E. Kienel, the machine turns the socks inside out and deposits them in batches of one dozen pairs (or any selected number of dozens) in a hamper or other receptacle. An automatic dozens counter is installed on each hopper to count production passing through the machine during any work period.

Description. The hosiery turning apparatus utilizes two vacuum tubes, operated by a one hp, 3450 rpm electric motor-powered blower. (See accompanying illustrations.) A damper mechanism concontrols the suction of the blower fan to each of the receiving chambers. When the operator has turned and/or inspected a dozen pairs (for example), a foot treadle is pressed to dampen the suction, and then the counter-balanced bottom door opens to deposit the batch of socks onto a table or into a container. When the door closes by action of the counterbalance, the counter is actuated to record the batch leaving the machine. As the door closes, suction is again applied to the inside of the container which assists in sealing the lower trap door and prepares the machine to repeat the previous operation. A

Can you do this on YOUR PRESENT SLASHER?



4,000 ends, 30's cotton
80 yards per minute
16 24 lbs steam pressure
2 slashers do the work of 3,
and eliminate Saturday
overtime

Ira L. Griffin & Son
Charlotte 1
North Carolina
Southern Representative

The "Uxbridge Gentle-Air" can, and is doing it for one customer — comparable jobs for many customers.
Thoroughly tested for (5) years under all kinds of operating conditions — slashing wools, cottons, man-made fibers and blends of all three — The "Uxbridge Gentle-Air" can give you more warps and better warps for a lot less than you are paying now, and save your floor space too.

BACHMANN UXBRIDGE WORSTED CORP.

UXBRIDGE, MASSACHUSETTS

conveyor belt may be utilized in conjunction with a battery of the turning machines in order to carry all of the socks away for further processing.

Production and Advantages. Depending upon the individual operative's ability, the machine can be used to turn 1000 to 1500 dozen pairs per day (8 hours). Approximately three times the usual production per operative is obtained at Unique on the turning operation alone.

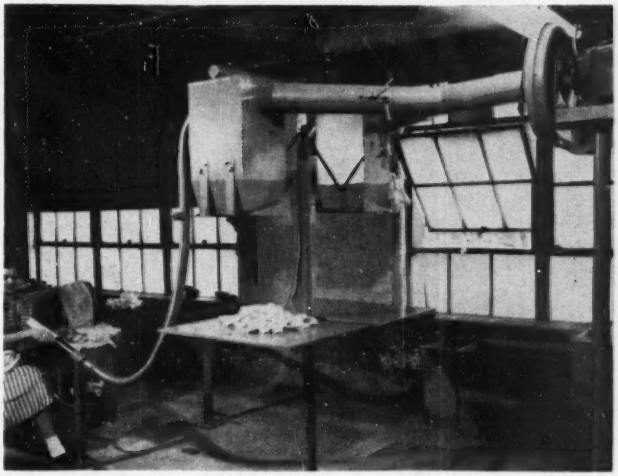
A useful attachment for inspecting the socks, at the same time they are turned, consists essentially of mirrors placed in a "V" arrangement underneath the vacuum tubes. This device is used only when the inspection and turning operations are combined. Production may be increased on transfer work by inspecting at the time the hose are turned by taking advantage of the mirror attachment.

When turning and inspection are combined at the new machine, production amounts to 800 to 1200 dozen per 8-hour day, approximately double the production as compared with other methods.

Many mills require knitters to turn the socks wrong side out so that the sock is prepared for the looper without making the turning job a separate operation. After the socks are looped they are usually sent to the inspection table, and the turning operation is done at the inspection board. Unique Knitting Co. is using a "spot" inspector who checks about 150 dozen pairs per day for the psychological effect the operation has on the knitters and loopers.

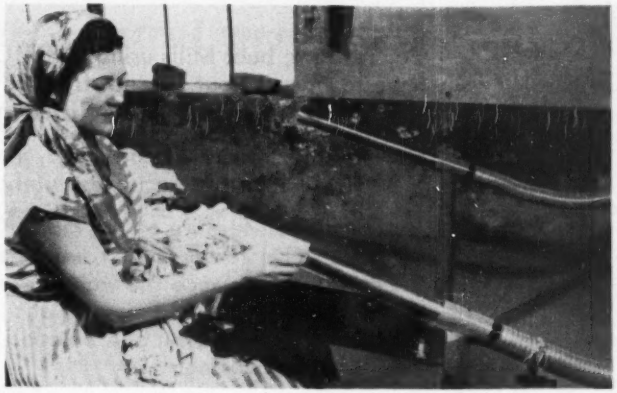
Operatives at Unique Knitting Co. formerly did 250 dozen pairs per day (8 hours) on an inspection board. Eight girls were employed for inspecting and turning; now three girls are employed in these operations. One girl is the spot inspector and two work on the turning machine.

Other mills using the device claim that the socks are fluffed and most of the excess lint is removed, thereby leaving the sock in a more natural and relaxed condition and ready for dyeing. This is said to help dye penetration.



FOOT-CONTROLLED DAMPER mechanism governs the draft of the blower fan to each of the sock receiving chambers. Foot treadle is pressed to dampen draft of fan, and the counter-balanced door releases turned socks.

PRODUCTION ranges from 1000 to 1500 dozen pairs per day (8 hours), depending upon the operative. Approximately three times the usual production per operative is obtained at Unique on the turning operation alone.



Training Operatives. An operative can learn to use the machine efficiently in approximately one week. The apparatus makes the turning operation simpler, conserves labor, is more productive, the operatives' morale is often improved, and less effort is required of the operative. At Unique the operatives have expressed enthusiastic approval of the machines.

Availability. The pneumatic hosiery turner can be custom tailored (at no extra cost) to suit the individual hosiery mill's requirements in accordance with the way the mill handles hosiery: whether in trucks, bags, etc. Turning tubes of various sizes are available to meet mill requirements, depending upon the type and size of work being done. Patents are pending on the apparatus, and Serial No. 197319 has been assigned by the government patent office.

You're right, bub! Mills using HERR Conical Rings don't have to worry about seconds from oil drippings because the flow of oil to the traveler is controlled all the time.

Furthermore, less oil is consumed, and added life given the traveler. And there is absolutely NO rewicking.

The special oil feature of the HERR Conical Ring is but one of several features that have been responsible for their wide acceptance the world over . . . wherever mill men insist on Quality Spinning and Twisting of Wool, Worsted, Nylon, Rayon and Blended Yarns of all types, and Cotton Twisting.

Ask for one of our representatives to call and discuss your ring problems with you.

HERR MANUFACTURING CO., INC.

318 FRANKLIN STREET **BUFFALO 2, NEW YORK**

By R. G. SHEPHERD

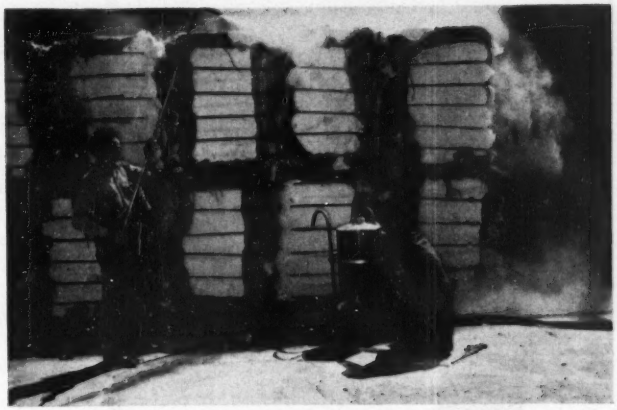
and

W. E. PETERSON

Engineers

Factory Mutual Engineering Division

EXCLUSIVE



USING DRY CHEMICAL DUSTER developed at Springs Cotton Mills to protect baled cotton against ignition sources.

Dusting Cotton Bales

as a fire control measure

TWO SERIOUS conditions hinder fire fighting in cotton bale storage—one is the speed with which flash fires travel over the stored cotton; the other is the large quantities of noxious smoke produced. Where baled cotton is under automatic sprinkler protection in a warehouse equipped with ample smoke ventilators, fires are usually extinguished with only slight damage. Salvage possibilities are good because fire fighters have an opportunity to remove bales promptly from the warehouse to an outside area for individual attention.

If there is no sprinkler protection, and if the fire is not discovered promptly, there is difficulty in using hose streams to cope with the situation, and there may be a total loss.

Despite sprinkler protection, a fire may quickly spread over many bales in a group before the sprinklers begin operating. Therefore, it is advisable to limit the number of bales stored in any one group. Not over 500 bales should be stored together, and a six to eight foot aisle should be provided between each group of bales.

A recent development reduces the possibility of ignition by dusting the surface of baled cotton with an inert dry chemical. Factory Mutual engineers, in an endeavor to overcome many problems of handling cotton fires, investigated the advantages of dry chemical surface protection for cotton bale storage. In this instance sodium bicarbonate was the inert dry chemical used.

Fire Retardant. The fire controlling effect of dry chemical is due primarily to the fire-retardant coating produced by the powder over the bale's surface. When the

THIS article includes a report on an investigation into the use of powdered sodium bicarbonate as a fire-retardant on baled cotton. Well-controlled laboratory tests were conducted to study (1) the importance of particle size of the bicarbonate, (2) the effect of relative humidity, and (3) total weight of bicarbonate required per unit area of exposed cotton surface.

Tests at Springs Cotton Mills showed no adverse effects in manufacturing or finishing when bales of cotton were dusted.

PRECISION *products*

for

RAYON
ACETATE
NYLON
COTTON
WOOL

PYROTEX
For scouring and dyeing Wool, Worsted, Cotton, Acetate, Rayon and Nylon. Neutral, effective under acid, alkaline and hard water conditions.

STANTEOSIME
Substantive softener for Acetate, Rayon, Cotton, Worsted, Wool. Minimum effect on shade and light fastness of dyed fabrics.

SOLIDINA
For improving fastness to washing and crocking of direct colors.

MOYTOL
Penetrant for dyeing, fulling, carbonizing, mercerizing, finishing and sizing. Effective in acid, alkaline and salt solutions.

STANTEX* OILS FOR YARNS AND STAPLE
Suitable for all fibers in coning, winding, twisting, spinning, weaving, knitting, etc. Characterized by high lubricity, excellent stability and scourability and good anti-static properties.

RETARDINE*
For level dyeing and stripping of vat, sulfur and direct colors.

STANTEX* PENETRATORS
For fast, efficient wetting and surface reducing action in dyeing and finishing of all yarns and fabrics.

SANFOROLS
For efficient wetting and rewetting and softening properties in preshrinking processes. No gumming of shoes or odor development.

STANDAPOLS*
Quality sulfonated oils for finishing, softening, throwing, sizing and emulsifying; anti-static agents.

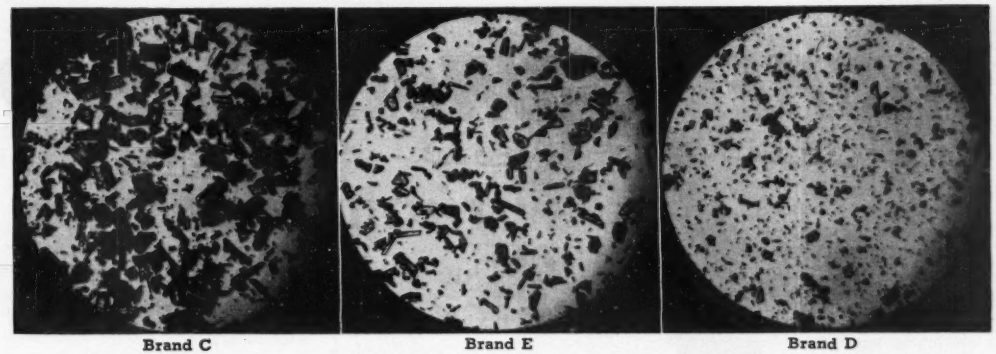
STANDAPINS
Durable and semi-durable finishes imparting a full range of body, hand and drape to all fabrics; non-slip finishes; snag resistant finish for hosiery; ribbon finish.

*Trade Mark

STANDARD CHEMICAL PRODUCTS, Inc.

1301 JEFFERSON STREET, HOBOKEN, NEW JERSEY

Chattanooga, Tenn. Paterson, N. J. Providence, R. I. Salisbury, N. C.
Sunbury, Pa. Sacramento, Cal. Greensboro, N. C. Leaksville, N. C.



Brand C Brand E Brand D

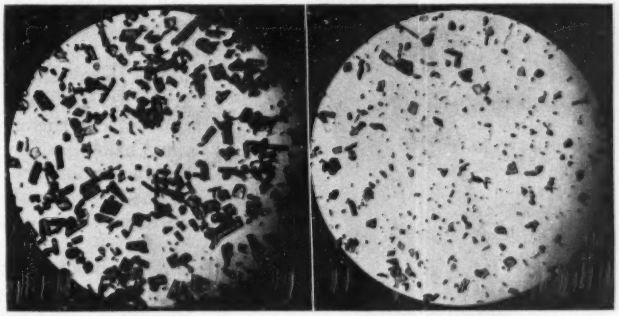
THE SMALLER the powder particles, the smaller the amount of powder needed to prevent the spread of fire. 5.3 lb of Brand C are needed per 1000 sq ft; 2.3 lb of Brand E are required per 1000 sq ft; and only 0.4 lb of Brand D are required per 1000 sq ft (relative humidity 28% to 30%).

powder is properly applied, the coating will not only prevent ignition from the usual sources, such as electric or friction sparks, but will so retard the surface progress of any fire originating within the bale that considerable extra time is afforded for detection and extinguishment. Surface fires over dry chemical coated bales are reduced to slow smoldering (at the rate of one or two ft per hour). There is also less smoke, and of course, much less cotton is consumed per hour.

The investigation of the protection of baled cotton included well-controlled laboratory tests to study (1) the importance of particle size of the sodium bicarbonate, (2) the effect of relative humidity, and (3) total weight of bicarbonate required per unit area of exposed cotton surface. Tests were also made to demonstrate practical methods of application of bicarbonate powder under warehouse conditions.

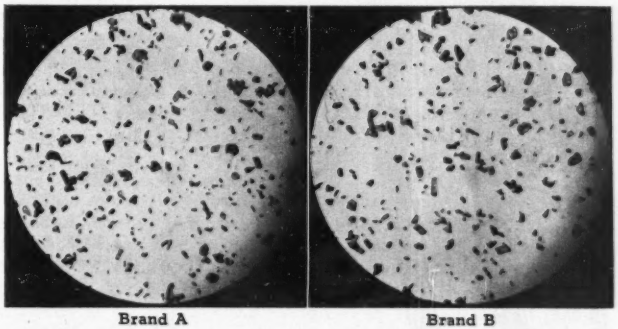
Particle Size. One of the most important results of the tests was discovery of a direct relationship between the fineness of the powder particles and the effectiveness of the powder in reducing flame spread over cotton lint surfaces.

In some instances microscope slides were placed beside the cotton samples in the test apparatus. When the minimum amount of powder needed to control flame spread was determined, the slide was placed under a microscope and photographs were taken (see illustrations). A section of the scale is visible in all photographs to indicate the size of the powder particles. The distance between the closest scale divisions represents 0.00067 inches. Many of the cotton samples which had been tested with the minimum amount of powder necessary to prevent flame spread when horizontal were moved into a vertical position and ignition was again attempted.



Brand A Brand B

TO PREVENT flame spread, 3.4 lb of Brand A were required per 1000 sq ft; 0.7 lb of Brand B proved to be sufficient (relative humidity 28% to 30%).



Brand A Brand B

AFTER SIFTING through 325-mesh screen, the amount needed of Brand A was reduced to 1.0 lb per 1000 sq ft; amount of Brand B was reduced to 0.6 lb per 1000 sq ft.

HIGHER SPINDLE SPEED

WITHOUT VIBRATION

. . . Due to the EXTRA rigidity of RCK BLACK FLYERS

It's a fact. With RCK tempered flyers you can actually speed up your spindles by as much as 100 to 200 RPM, and not have to worry about the damaging vibration that you'd get from ordinary flyers.

Ideal's heat-tempering process — the same process that gives RCK (Black) flyers their glossy rust-resistance— also stiffens them, gives them stronger resistance against the "ballooning" effect which makes an ordinary flyer wobble at high speeds. This extra rigidity overcomes many of the ill effects of fluctuating spindle speeds, assures more uniform yarn quality.

This and other *improved methods* used exclusively by Ideal Machine Shops make RCK flyers the outstanding choice of production-wise, quality-conscious mill men from coast to coast.

- Flyer barrels drawn in .003" undersize with Ideal's pneumatic swaging machine, and taper-reamed to factory specifications. Legs and noses smoothed and straightened.
- Flyers balanced at the running speed *specified by your mill* with Ideal's SELECTO SPEED flyer balancing process.
- Flyers given your choice of the famous RCK finishes:

  RCK Black—glossy, highly rust-resistant.
  RCK Bright—highly polished, ideal for rayon or cotton.
  REGULAR—all repairs, but no polishing

IDEAL MACHINE SHOPS, Inc.

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27TH YEAR OF CONTINUOUS SERVICE TO TEXTILE MILLS

Where there was sufficient bicarbonate to prevent flame spread, it made little difference whether the sample of cotton was horizontal or vertical.

Application. The next step after the small-scale tests, was to devise a suitable means of applying the powder under warehouse conditions. The problem was one of coating vertical as well as horizontal surfaces, which indicated the need for a device to discharge a blast of powder directly at the sides of the bales and with as wide a range as possible.

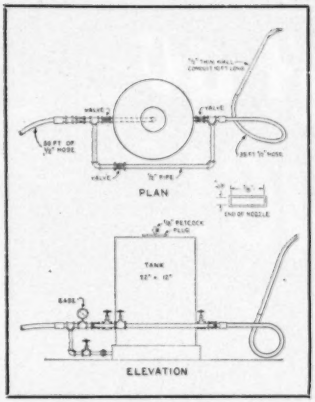
After several trials, a satisfactory method of dispersing the powder was found. A 30-lb dry chemical fire extinguisher proved satisfactory for the job. Twenty pounds of sodium bicarbonate were placed in the extinguisher which was connected by an air hose to a 40-gallon air tank at 100 psi pressure. An average of about 15 lb of bicarbonate per 1000 sq ft area was found to be satisfactory to flameproof horizontal and vertical sides of cotton bales. To apply sufficient powder to the vertical surfaces, it was found that the discharge should be from right angles and from a distance not greater than 20 ft.

The results of this investigation indicate that by dusting the cotton with a powder consisting wholly or primarily of sodium bicarbonate, flash fires on the surface can be prevented.

The effectiveness of the powdered sodium bicarbonate increases with reduced particle size, best results being obtained with a mesh size of less than 325. A number of standard brands of bicarbonate were tested. Some commercial grades contain at least 50% of 325-mesh or smaller particles. Other, preferred grades contain over 75% of 325-mesh. The application of sodium bicarbonate to cotton bale storage at a minimum average rate of 15 lb per 1000 sq ft of floor area insures a coating of four to five pounds per 1000 sq ft of exposed cotton. This is more than sufficient to prevent the spread of flame at 20% relative humidity.

Effect of Humidity. The relative humidity has practically no effect when the particle size is 325-mesh or smaller. When larger particles are employed, several times more powder is required at low than at high humidities. Precaution should be taken to see that the bicarbonate is free-flowing at all times to assure proper distribution. Bicarbonate stored in humid locations is quite apt to absorb moisture and become solid and unfit for use.

A question which naturally comes to mind is, "What possible effects may bicarbonate have on manufacturing and finishing processes or on the quality of the finished product?"



SKETCH of duster constructed at Springsteen plant. Photo on page 147 shows how it looks and method by which it is used.

Effects on Processes. In collaboration with Factory Mutual's study, Springs Cotton Mills dusted a 30-bale lot of cotton with three times the recommended amount of powder. This was applied directly to the baled cotton. This cotton represented about a 12-hour continuous run for one of the mills. Samples were taken at several stations such as at opening, picking, carding, and spinning. A series of laboratory tests were made for bicarbonate content and for any effect it may have on the quality of yarn or finishing treatments. Their laboratory reported no indication of an unsatisfactory effect of any sort.

Since May 1949, all baled cotton used at the Springsteen Plant has been dusted with sodium bicarbonate at the rate of 15 lb per 1000 sq ft of warehouse area. Cotton used at this plant is woven into cloth and finished at the Springs bleachery.

To date no sodium bicarbonate dust has been observed anywhere except in warehouses. It has no effect on plant operations or quality of product in that only one pound of sodium bicarbonate is used for every 10,000 lb of cotton.

A warehouse section 50 x 100 ft with cotton piled six bales on side, in which sodium bicarbonate has been applied to surfaces of cotton after piling, will be safe from flash fire. The sodium bicarbonate should be applied at a rate of 15 lb per 1000 sq ft of warehouse area or 75 lb per standard warehouse section.

Applicator. For warehouse use, a simple, inexpensive dusting machine is desirable. The Springsteen Plant constructed a duster (see illustration) consisting of a metal container, holding 75 lb of sodium bicarbonate, and fitted with a ½-inch valved inlet, outlet, and by-pass. Shop air at 70 lb pressure, is used successfully to disperse dust. Effective dusting could be done with as low as 30 lb air pressure. A ten-foot section of thin-walled electrical conduit connected to the container with a 35 ft length of half-inch hose, serves satisfactorily as a nozzle. The end of the conduit is flattened to give an opening of ⅞-inch by 3/16-inch for a fan type spray. The nozzle permits the operator to dust all cottons from the middle aisle of the warehouse. The dust can be blown more than 25 ft in the 3 ft space between the top of cotton and warehouse roof.

The home-made duster described is the only one used to date. Simple in design and inexpensive, it does not require any experience to operate. Fire tests on dusted cotton taken from stock indicate that the dusting has been effective, and the possibility of flame-spread along cotton surface is eliminated entirely.

Other means of applying the powder may be used. An agricultural duster equipped with electric motor drive may do an excellent job, but has not been tried because of the higher cost.

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There's always a Powell Valve—correct in design and materials—for every flow control service.

Quality line throughout "The Line"

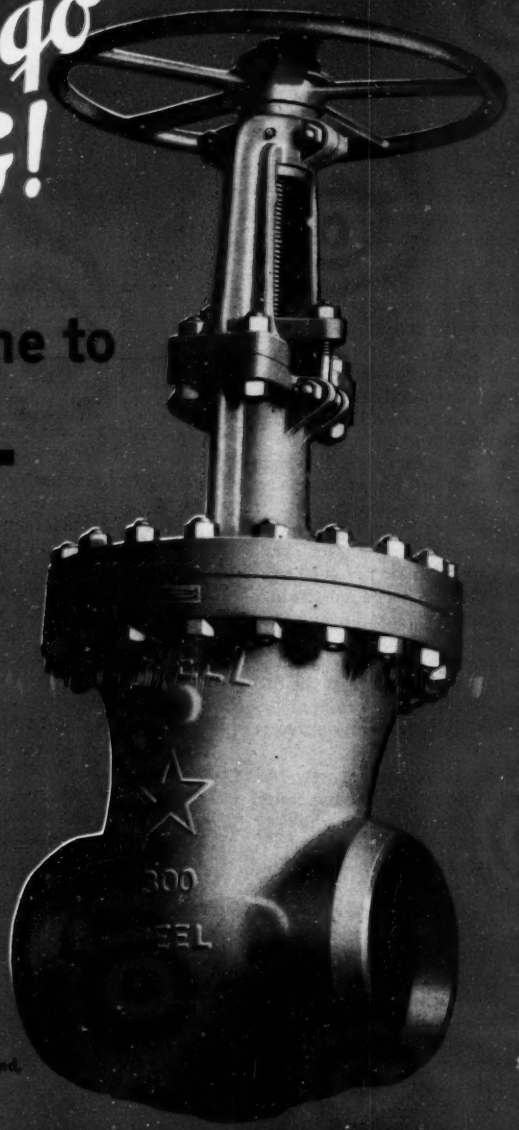

Fig. 3003 W.E.—Class 300-pound, welding end, Cast Steel O. S. & Y. Gate Valve.

POWELL

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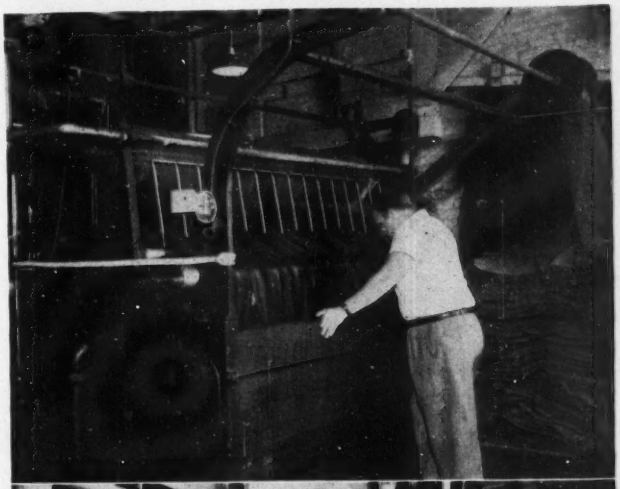
Continuous Finishing of Woolens

Increased production and improved product quality are results achieved.

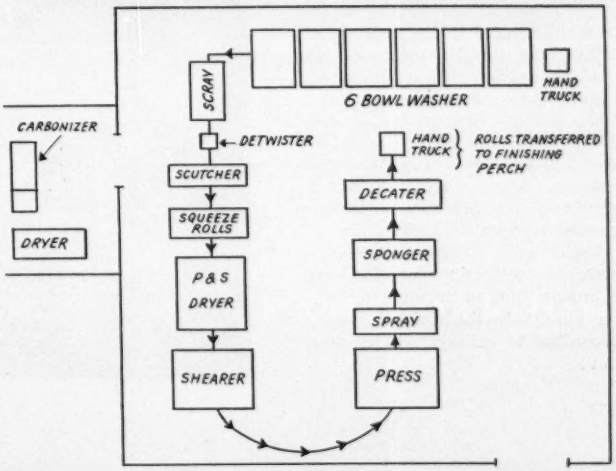
Staff Prepared

EXCLUSIVE

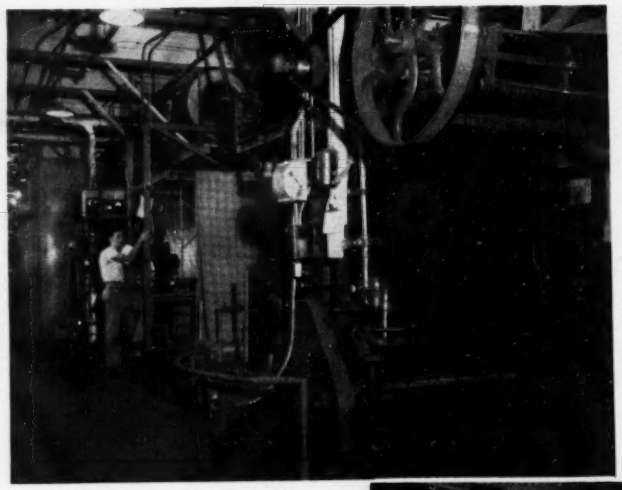


AFTER soaping and fulling, finishing operations on woolen goods are continuous at Hardwick Woolen Mills, Cleveland, Tenn. Goods progress from a continuous 6-bowl washer through decating without stopping for manual handling or moving from one machine to another. The arrangement has speeded production, reduced handling costs, and the goods travel from one process to another in a more uniform condition in that the time lag between processes does not vary as much as it would with intermittent operations.

The continuous processing line-up in this mill (see accompanying diagram) begins with a continuous washer located at one end of the finishing room. The washer feeds cloth into a scray, at which point the goods make a right angle turn to the left before entering the detwister. A scutcher takes the material from the detwister and delivers it to squeeze rolls. A Proctor

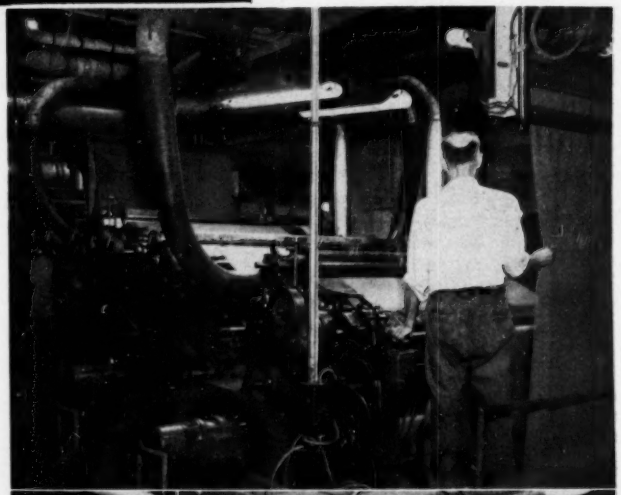


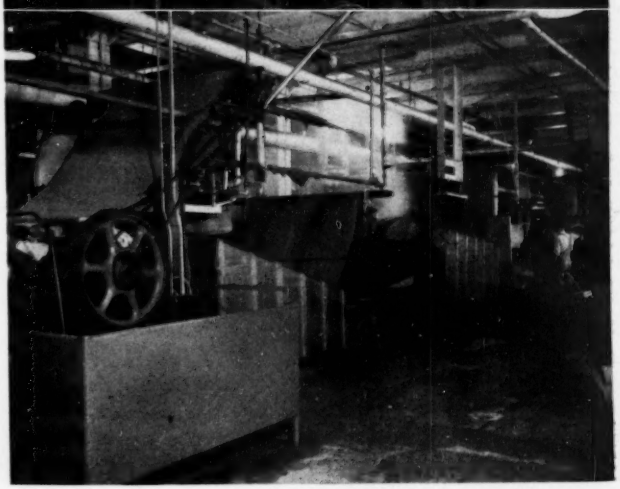
SCHEMATIC DRAWING at right shows how woolens are finished continuously at Hardwick. The two photos above show the goods entering the continuous six-bowl washer (upper photo) and cloth emerging from washer and going into detwister.



SCUTCHER and squeeze rolls are next in line before goods enter drying oven (visible at extreme left of this photo). Note Drimeter just above operatives head; it controls moisture in goods in process.

SHEARING machine may be seen in the upper photo below. Most of the fabric at Hardwick is sheared back once and face twice. After shearing, cloth is guided around a 180-degree turn to left to enter last line of finishing machinery shown in lower photo.





and Schwartz dryer equipped with a Drimeter [for description of this device see story beginning on page 149 of the February, 1949, issue of TEXTILE INDUSTRIES] is next in line, and after drying the cloth continues through a Parks and Woolson shearing machine which shears the back once and the face twice on most goods.

After shearing, the cloth is guided around a 180-degree turn to travel in the opposite direction down a third line of processing machinery. The first operation in this line is performed by a cloth press, followed by a sprayer (water to dampen the goods), and then the cloth enters a scray. The last two operations in the continuous sequence include sponging and decating. At this point the material is taken to perches for inspection.

All goods to be piece-dyed at Hardwick have to be carbonized; consequently operations are not continuous after first washing and drying before carbonizing. Piece dyed goods go through carbonizing first; then to the dyehouse. Then it starts at the scray in front of detwister, goes to a scutcher, and it continues through the remaining operations without interruption.

Continuous finishing not only steps up production but also aids in maintaining uniformity for better quality in the finished goods, according to management at this mill.

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TEXTILE MACHINE WORKS • READING, PENNA.

The "READING" Full-Fashioned Knitting Machine

GEORGIA MILL MEN and a number of visitors from other states convened in the auditorium of Harrison Hightower textile building at the Georgia Institute of Technology to comment on their respective mill practices in manufacturing operations. Attendance was near capacity, and discussion was lively.

Georgia mill men discuss

Card Room Practices

Staff Prepared

THIRTY-FOUR GEORGIA MILLS and mill groups, operating 1,665,890 spindles, submitted written answers to 22 questions covering their practices on opening, picking, carding, drawing, roving, spinning, spooling, winding, and warping. This report is a summary of the information given at the meeting as well as of the written answers to the questions.

PNEUMATIC and hydraulic lap releases for pickers were first on the agenda for discussion at the spring meeting of the Textile Operating Executives of Georgia. The meeting was held at the Georgia Institute of Technology in Atlanta on March 24.

H. M. Jackson, Fulton Bag & Cotton Mills, Atlanta, presided as general chairman. L. G. Hardman, president of Harmony Grove Mills, Commerce, Ga., and president of the Cotton Manufacturers Association of Georgia, addressed the group. Turner R. Scott, Martha Mills, Silvertown, Ga., conducted the forum on carding, and Z. B. Mangum, Sibley Division, Graniteville Co., Augusta, Ga., led the discussion on spinning. E. A. Bentley, Swift Manufacturing Co., was elected to the executive committee, replacing H. T. Gilbert, of Athens (Ga.) Mfg. Co., whose term expired.

Ten mills reported on pneumatic and hydraulic type lap releases on pickers. The data presented regarding this equipment was inconclusive; however, it was generally agreed that more yards could be put on each lap without increasing the diameter of the lap. In several instances mill men reported improved uniformity in picker laps made on pickers equipped with the lap release mechanisms, although others indicated no change in uniformity, and one answer revealed a variation of 5 to 10 grains in the last 5 yards of card sliver. The press roll diameter was reduced to overcome the variation. In one mill maintenance on lap pins was reduced by utilizing 44 lb of air pressure instead of 56 lb. No one was using ball bearing lap pins with a hydraulic or pneumatic lap release.

During the meeting one man commented that his mill increased lap weight from 48 to 54.4 lb by using a pneumatic lap release. No noticeable difference was found in uniformity. Evenness charts showed 1.09 per cent variation on laps made without the pneumatic release and 1.08 per cent variation was recorded on laps made with the pneumatic release. Lap diameter was 17½ inches on both pick-

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ers mentioned. 50 pounds air pressure was employed in this mill, and the mechanism will pay for itself in nine months.

In another mill the first laps made were 69 yards long; however this figure was reduced to 60 yards to correct trouble with lap pin maintenance in that the lap diameter was to be held to 18 inches and the air pressure to 70 lb. 437 lb of waste were saved in 120 hours by using the pneumatic lap release.

A question was posed regarding experience with hydraulic lap release on lappers. The speaker replied that 16 lappers in his mill were equipped with the mechanism, producing good results and a slight increase in production.

Cleaning and Overhauling Openers and Pickers. 32 mills responded to a question regarding lap weights and cleaning and overhauling schedules on openers and pickers. Several representative answers are as follows:

Mill C. Pull all fly and chokes and dress all belts daily. Weekly: Run out stock, remove doors, raise all bonnets, pull all chokes, and clean thoroughly with air. Mop outside of picker with yarn mop. Pickers are overhauled twice a year.

We keep to a minimum our lap variation on Monday morning start-ups by running pickers thirty minutes before cutting in feed. This gets machinery warm and belts flexible.

Mill D. On openers we mop machine once in eight hours; clean out sand boxes once in eight hours; check all shafts once in eight hours; and clean magnets. Wash magnets with mineral spirits once each week, and clean sand boxes once per week. Clean out bottom screens and pull chokes once per week; overhaul twice per year.

We have had trouble with lap variation on Monday morning, but we haven't overcome the trouble. We keep the room warm during the week-end and turn on humidity four hours before starting the machines, but we still have trouble on first shift of the week.

Mill H. Openers and pickers are cleaned every 8 hours. We perform total overhaul only as necessary.

Occasionally, the first lap must be re-run on Monday morning. The two solutions are: conditioning over the week-end, or complete removal of cotton from the opening and air systems; neither is desirable in our case.

Mill L. Our cleaning schedule is as follows: Opening equipment is cleaned at the start of each shift at the beater sections, air ducts, and condenser sections. Pickers are cleaned at the start of each shift at each screen section and the motes are pulled from under the beater sections once during a 24-hour day. The opening equipment is overhauled when it is apparent that overhauling is needed. The pickers are overhauled every six months.

In controlling lap weights on Monday morning, our procedure is as follows: Since the screens are picked at start up, about 35 or 40 yards are run on the floor because of dirty, trashy lap, and by this time the weight of the lap is nearly uniform.

Georgia Mill Practices

★ **Pneumatic and Hydraulic Lap Releases**

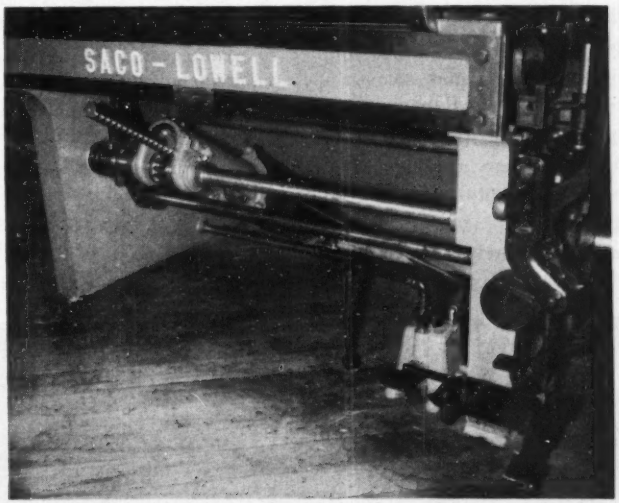
★ **Overhauling Openers and Pickers**

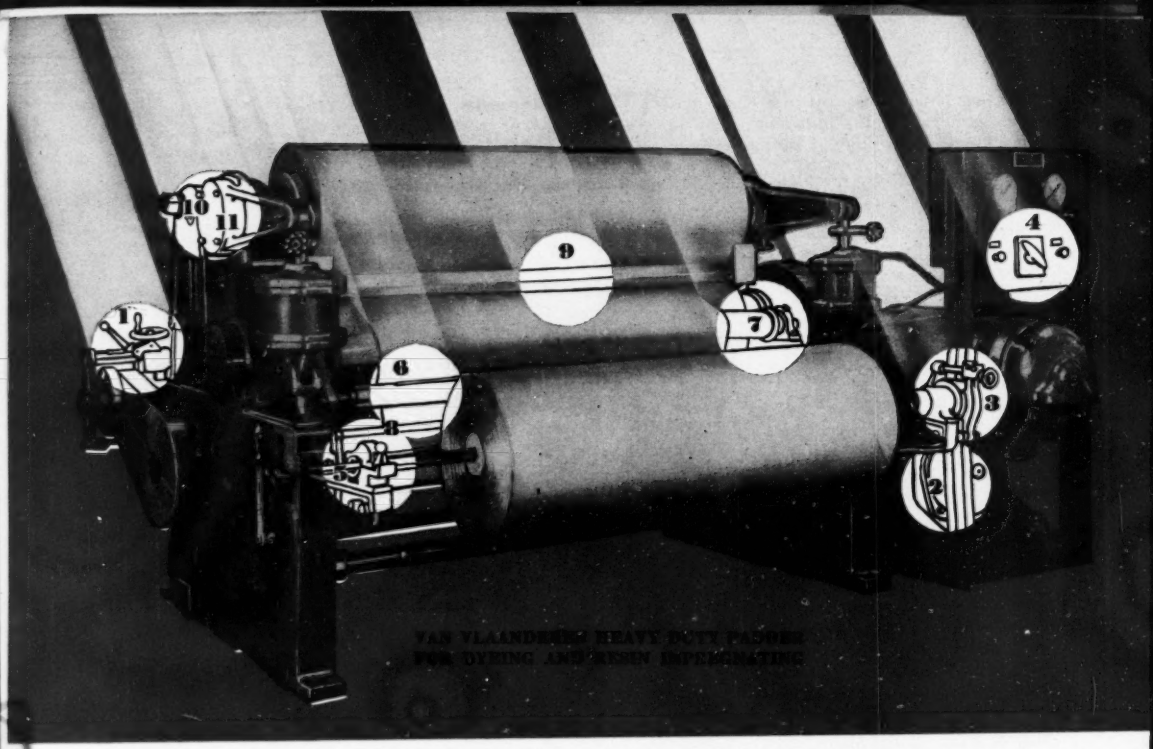
★ **Ball Bearings on Pickers**

TURNER R. SCOTT, Martha Mills, Silvertown, Ga., an executive committeeman, conducted the first portion of the meeting which was devoted to carding practices.

Ball Bearings on Pickers. The consensus was that ball bearings on pickers help to improve lap evenness.

PNEUMATIC calender roll pressure system was discussed.





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FOR DYEING AND RESIN IMPREGNATING

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Focus your attention on these points of superiority. They will stand out in the light of your experience in processing modern fabrics.

1. It has an entirely new slip clutch take-up. Operates through dual friction plates with sensitive tension control and quick acting engage and disengage lever.

2. Variable speed drive, coupled to worm gear reducer, gives quiet, smooth operation and saves considerable floor space.

3. Malleable iron block brakes have tension indicator for easy reading and brake shoes are independently mounted for smoother action.

4. Pneumatic pressure system controls each cylinder separately, allowing operator to equalize nip pressure.

5. Both let-off and take-up bars have positive center bar locks.

6. All guide rolls are mounted on anti-friction bearings and made of stainless steel.

7. Two rubber covered expanders with sealed ends are provided.

8. The stainless steel pan can be easily and quickly lowered for cleaning.

9. Splash guards and nip guard assure safe, clean operating conditions.

10. Padder rolls are mounted on spherical roller bearings for smooth trouble-free service.

11. Both rolls are easily removed.

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Mill A. We have ball bearings on our fans, beaters, and some of the feeders. However, we don't think any of these could influence evenness or unevenness.

Mill B. Ball bearings definitely improve evenness of picker laps. They are used at the following places: Feed apron bearings; fan bearings; beater bearings; synchronizer bearings; cone and drum pulley bearings.

Mill C. We have installed ball bearings on all picker fans and beaters. We also equipped our back evener cone box with ball bearings. We have no figures as to actual effect these bearings have on evenness, but we feel sure they contribute greatly to quality work. Maintenance cost is also greatly reduced by use of ball bearings on beaters and fans.

Mill F. Our pickers have ball bearings just about everywhere we can put one. Fans, beaters, apron shafts, top and bottom cones, side shafts, all evener shafts. This gives a much lighter and freer running machine and will most certainly produce an improved lap.

Mill H. Ball bearings are installed on lap pins, beater, fan, and evener motion shafts. Experience is that these are highly satisfactory. There are fewer breakdowns on the pickers and lap variation is less. Lap is held within a pound tolerance, plus or minus.

Mill O. Ball bearings on top and bottom cone shafts on synchronizers. Ball bearings on No. 7 piano motion eveners. Ball bearings on side shafts. We do not have ball bearings on Perham & Davis front eveners except on set back machine. We believe the yard per yard variation would be improved if eveners were fully equipped with anti-friction bearings.

Mill S. Except for loggerhead, calender, and bed rolls, all other bearings are ball type throughout the picker. A definite improvement was made on lap evenness after installation of ball bearings and the use of the setback machine was greatly reduced.

Mill Y. Ball bearings are used on beaters, fans, aprons, and synchronized evener cones. Helps lap evenness and reduces setbacks about 20 per cent.

Mill FF. We use ball bearings on all moving parts possible on our eveners. We do not see where ball bearings at any other place would materially affect lap evenness. Our variation will run approximately 3.5 per cent.

Georgia Mill Practices

★ **Automatic Picker Scales**

★ **Kirschner and Blade Beaters**

★ **Changing to 14" Card Coiler**

Automatic Picker Scales. Only two answers were forthcoming in answer to the question: What method is used to get the new type automatic scale reading at the picker instead of the operator having to go to the weighing station? Does this method slow down or speed up weighing and handling? Can it be justified?

According to one answer, the manufacturer now has an installation of electrified track recessed in the floor with stations in front of each picker, and the scales move automatically from one picker to the next.

A second answer stated that, since the scale face can only be seen at a short distance, only those pickers very close can be accurately adjusted. It slows down weighing and handling, and with a central station, using a long line of pickers it is not justified.

Kirschner and Blade Beaters. 13 mills expressed preference for Kirschner beaters, stating that they produced better cleaning and opening and a more uniform lap. Two mills preferred blade beaters, claiming better cleaning action. Five answers to the question stated no preference without qualifying the conditions.

ROBERT W. PHILIP, secretary-treasurer of the Textile Operating Executives of Georgia for 28 years, informed the group of his resignation from the office and was commended for his valuable service to the organization. A resolution of appreciation is to be dedicated and engraved for presentation at a later date. Herman A. Dickert, director of A. French Textile School, Ga. Tech., succeeds Mr. Philip as secretary-treasurer of the organization.

Changing to 14" Coilers on Cards. One question asked for a description of the changes necessary to convert 12-inch coilers to 14-inch coilers on cards and how much additional sliver could be placed in the larger cans. Only two mills submitted written answers about the conversion.

Mill Q. Changes necessary to convert from 12-inch to 14-inch cans are: (1) Convert coiler plate to larger size to cover 14-inch can. (2) Convert can table to larger size to carry 14-inch can. (3) Put larger

MILL T: PRODUCTION DATA ON 12-INCH AND 14-INCH CARD COILERS

	12" Can	14" Can
Lb of sliver per can	13	17¼
Running time of can (minutes)		
8.63 lb per hr production	90	120
10.00 lb per hr production	80	105
13.45 lb per hr production	60	80
Tenders Required per Shift	7.20	5.86

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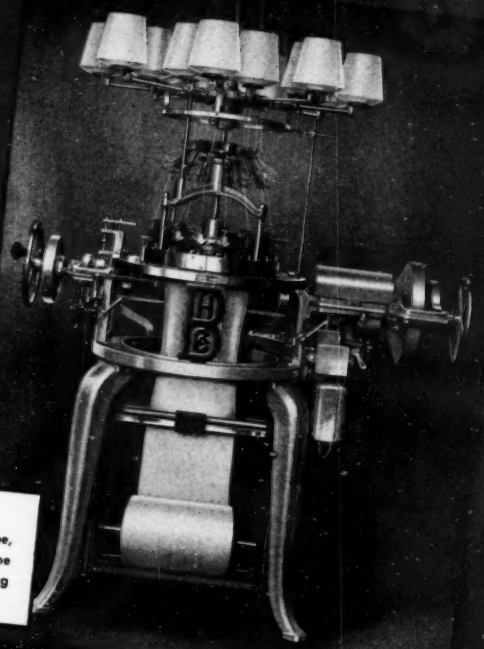

STATIONARY CYLINDER

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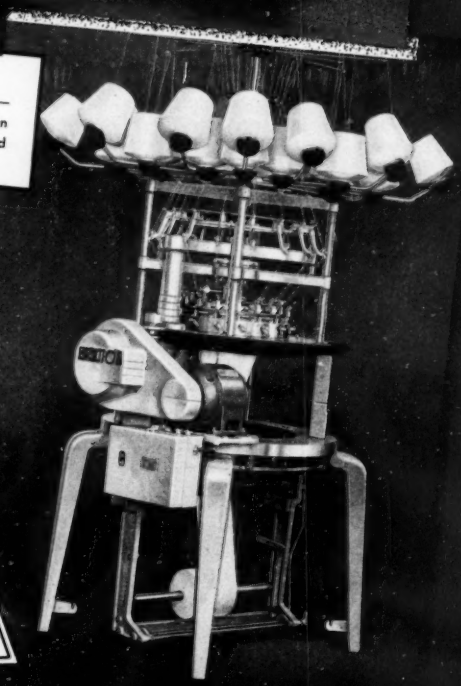
REVOLVING CYLINDER

New features of engineering are combined with speed—plus—quality production in this type—the newest Brinton development. Years of Brinton research have developed these revolving cylinder machines.



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BRINTON

CIRCULAR KNITTING MACHINES

intermediate gear between gear on bottom of upright shaft and the can table to make room for the can table to go in beside the upright box. (4) Change gearing on can table drive to get correct lay of sliver in the can. We have been able to increase the sliver in the can an average of about 30 per cent. We do not use the weighted tongue and groove calender rolls.

Mill T. We found it necessary to have the following parts made: Tube gear plates; 23 T. 6 P. cast tooth intermediate turn table gears; 1-inch solid steel set collars; turn table for 14-inch can; bearing bracket RH or LH; shaft 1 x 6⅞ inches; 24 T. 8 P. cast tooth gears; 39 T. 10 P. cast tooth gears with 9 T. 10 P. cut steel pinion; 10 T. 10 P. cut steel gears; gear guards RH or LH. The sliver in the can was increased and savings result as shown in the box at the bottom of page 161.

During the meeting a mill man asked if any trouble was experienced with the coiler can rubbing against the comb box. It was explained that a wedge was inserted between the coiler and the stand to move the can out far enough to clear the comb box. Someone wanted to know if the speed relation was the same on the converted unit. The speed relation was changed slightly, according to the answer given.

In answer to several additional questions raised at the meeting, comments were made as follows: The conversion helps spinners by having less piece-ups. In one instance trumpets and sliver were changed to permit putting 25 lb of stock in each can (on 55 and 65-grain sliver). A 1-inch shim was placed under the can to raise it to sufficient height, and the distance between top of can and coiler head was 3 inches. A smaller trumpet was used and set closer to the calender roll to get 25 lb of stock into the can, and in this instance the mill planned to amortize the cost in one year because the work was done in the mill shop. Moving the heavier can was no problem, and employees liked the change. Another speaker said that his mill would amortize the cost of the changeover in two years.

Georgia Mill Practices

★ **Vacuum Card Strippers**

★ **Continuous Stripper Fillet**

★ **Controlled Draft Drawing**

Portable vs. Vacuum Card Stripping. In comparing the advantages and disadvantages of the portable brush type card stripper with vacuum automatic systems, it was the consensus that portable strippers do a more thorough job of stripping. Several mills indicated that the portable stripper burnishes the card wire, which they considered an advantage. The vacuum type system was said to be quicker, less damaging to card clothing, safer, less expensive, cleaner, requires less labor, and less grinding of card clothing was found necessary in one instance.

Reporting during the meeting, one mill man said that his mill used the vacuum lines for other purposes than stripping. Waste and other types of stock were transported in the system.

Covering Vacuum Stripper Lines. Answers from ten mills indicated that it was necessary to insulate vacuum stripper lines exposed to the outside atmosphere. The reasons given for covering the lines were: to prevent moisture condensation in the lines due to differences in inside and outside temperatures, and to prevent the pipe and screens from becoming clogged with moist lint deposits.

Six mills had experienced no difficulty with uncovered outside stripper lines; one had no trouble but did not tell whether the line was covered or not; and one mill had all lines inside.

New Fillet on Continuous Strippers. No one had experience with a new type of cylinder fillet of a different pitch and angle of wire to be used on continuous strippers. According to a response to the question, one of the card clothing manufacturers is experimenting with this type of fillet in a midwestern mill and obtaining good results.

Controlled Draft Drawing. Four mills had insufficient experience to compare controlled draft drawing with conventional four-roll drawing. Two experiences indicated superior results with conventional drawing, and three mills had superior results with controlled draft drawing. Advantages claimed for conventional drawing were: stronger and more uniform sliver. Advantages claimed for controlled draft included: less piecings and better uniformity. Tests indicated about two per cent less variation on controlled draft than on conventional draft. Sliver weights ranged from 52.9 grains to 65 grains; speeds varied from 100 to 200 feet per minute.

There was no general agreement regarding performance of ball bearing rolls.

Ball Bearings on Roving Top Rolls. Eleven organizations revealed experience with ball bearings on roving frames; two revealed an increase in yarn strength, and nine noted no change in yarn breaking strength. Less oiling, no roll picking, and no oil on the work were listed as advantages of the ball bearing rolls.

Roving sizes ranged from .625 to 4.00 hk, and no difference in uniformity was noted.

Creeling on Roving Frames. Sixteen mills approved creeling roving frames upon doffing as their accepted practice because the splice was included in the first layer on the bobbin, thereby reducing unevenness. Random creeling was preferred in fifteen instances, whereby more production was claimed, fewer cans were needed, less space was required, and less handling was done at one time. Where roving is creeled 12 to 15 cans per doff, benefits are obtained in that less slubs are produced, and the creeling job is divided equally among the shifts.

(The discussion on spinning will appear in the June issue.—Ed.)

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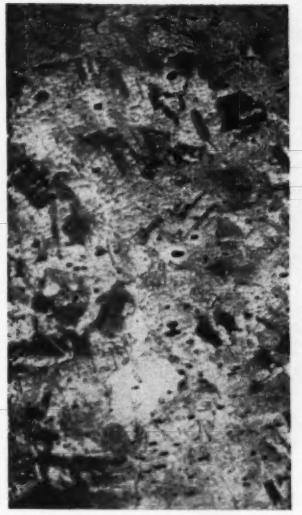
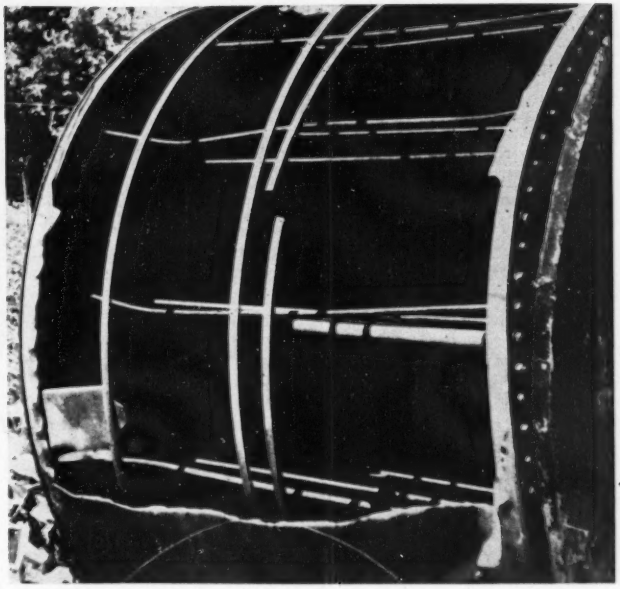


PHOTOMICROGRAPH of a ruptured copper shell plate. Note crack near lower left corner. A metallurgical microscope revealed what appeared to be a fatigue crack in the internal structure of the shell.



THIS WRECKED HULK was once an 84-inch slasher cylinder before failure of the shell plate resulted in an explosion which left this.

Slashers Can Explode

MANY slashers are constructed with two copper covered cylinders; one cylinder usually is 60 inches in diameter and the other is 84 inches in diameter. Light gauge copper, having a thickness of .065 inches and .072 inches respectively, is used in many instances because of the need for good heat conductivity. The strength of these major slasher parts is not often considered in relation to the load to which they may be subjected.

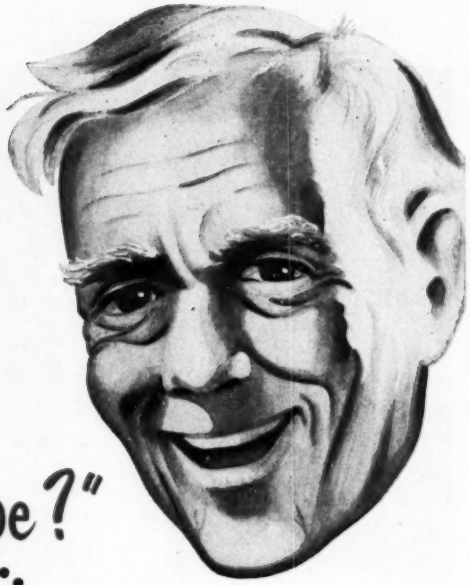
Steam is commonly introduced to the rotating cylinders at 12 psi through hollow trunnions, and safety valve settings range slightly higher. Stainless steel slasher cylinders have been constructed for operation at higher pressures.

Danger Present. Many mill men are lulled into a false sense of security because of the relatively low steam pressure utilized in slasher operation. A total pressure of 66,000 pounds on the head of an 84-inch slasher cylinder represents a considerable potential hazard. The total pressure, causing "hoop stress" or tensile loading of the copper shell, may be more than the pressure on the head. It is easy to imagine the blast that could be caused by a failure of a slasher cylinder which is subjected to a 30-ton load.

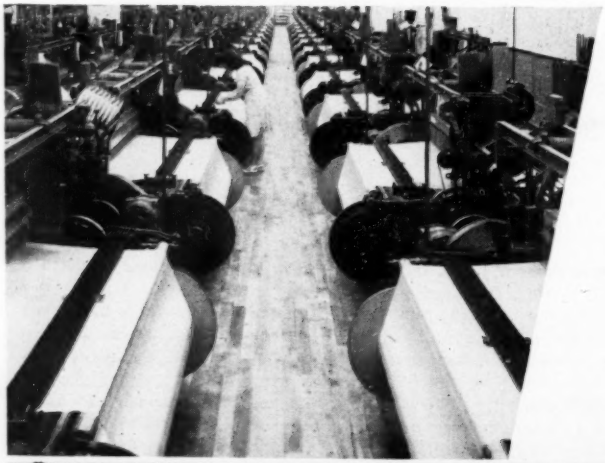
In recent years there have been several serious explosions of slasher cylinders. In one case, two fatalities occurred, and the property damage was substantial in other instances. Each failure was carefully investigated, and it was found that excessive pressure was the cause of one out of three explosions. The pressure was reported to be normal and the safety valves functioned properly on test prior to and after the failure of a second cylinder. In the third instance, a recording pressure gauge definitely showed a pressure of 14 psi at the time of explosion.

Following the third explosion,

This article was prepared by engineers of Mutual Boiler and Machinery Insurance Co., Boston, Mass., and is by special permission an adaptation from the company's publication, "Accident Prevention Bulletin."



"How Productive can an old loom be?"



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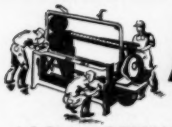

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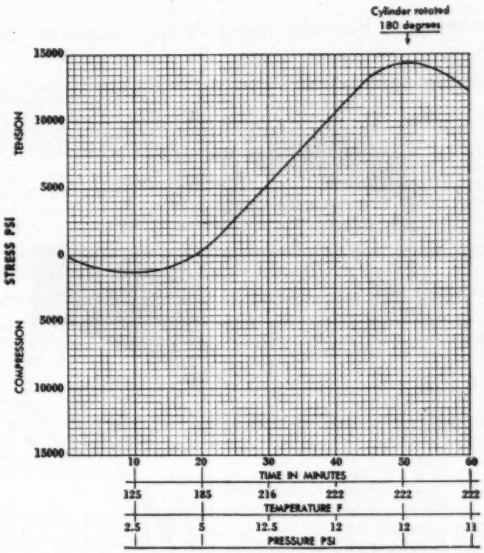
LOOM MODERNIZATION SPECIALISTS

information obtained revealed that the 84-inch slasher cylinder was found cold and partially filled with condensate just prior to being put in operation. Steam was introduced at 14 psi, and the slasher cylinder had just started to rotate when it exploded. The operator intended to bring a vacuum breaker in the head to its lowest position before depressing it to permit steam pressure to blow out the condensate.

No excessive reduction in thickness of the metal was found upon subjecting pieces of the ruptured shell plate to laboratory investigation. What appeared to be a fatigue crack in the internal structure of the shell was disclosed by an examination under a metallurgical microscope (see photomicrograph on page 165).

High Thermal Stresses. Suddenly chilling the hot cylinder shell each time the slasher was started produced a thermal shock which started cracks, thereby weakening the structure until finally an explosion occurred. If the slasher is heated too rapidly, calculations show that very high stresses may be set up in the shell plate near each end of the cylinder.

SR-4 electric resistance strain gauges were used to measure strain in millionths of an inch during warm-up periods on a 60-inch slasher cylinder. In stress analysis investigations the strain values were converted into stresses which were plotted against time, temperature, and pressure. The stress values for Gauge No. 5 are shown in the accompanying graphic illustration.

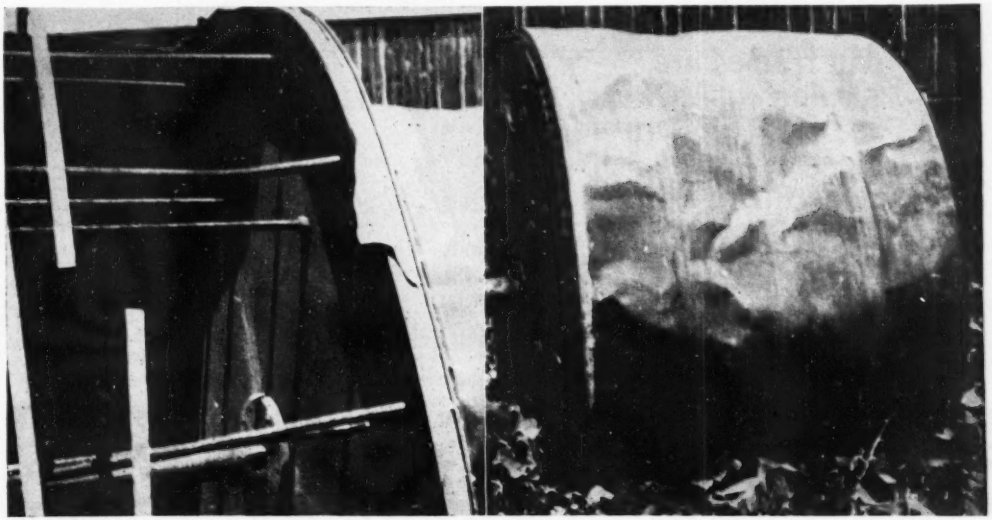


Stress values for Gauge No. 5 plotted against time, temperature, and pressure, show an extreme high pressure of nearly 15,000 psi that occurred when the slasher rotated

About 250 per cent of the maximum allowable stress occurred when the slasher cylinder was rotated, producing nearly 15,000 psi. A revised and safer operating procedure may have greatly reduced overstressing in this instance.

Cylinders Can Collapse. The light gauge copper shell of a slasher cylinder is not designed to withstand the forces exerted by a partial vacuum. Any appreciable vacuum created by cooling an air-tight

Left, view of wrecked slasher cylinder with exposed shrunk-on cast iron retaining ring, stay rods, and torn shell. Right, slasher cylinder partially collapsed from vacuum. When a cylinder collapses it is not usually dangerous to life and property, but invariably the shell is ruined beyond repair.



Can't get 'em up on Monday?

If you can't get frame production up after week-end shut downs, due to bands popping off, or waste from slack bands, or from sticky wooden-bearing tape tension pulleys,—do as scores of other mills have done, and

get Meadows Modernizers

and you'll end Monday-morning band, sticky tape-pulley, and cylinder troubles *for keeps!*... Convert your frames to tape drive with Meadows individual drive pulley and ball-bearing tape tension pulleys, and be assured of even tension at *all times*—a more uniform speed and twist—fewer ends down. Can be easily and quickly installed on either band-driven or old-style tape driven frames.

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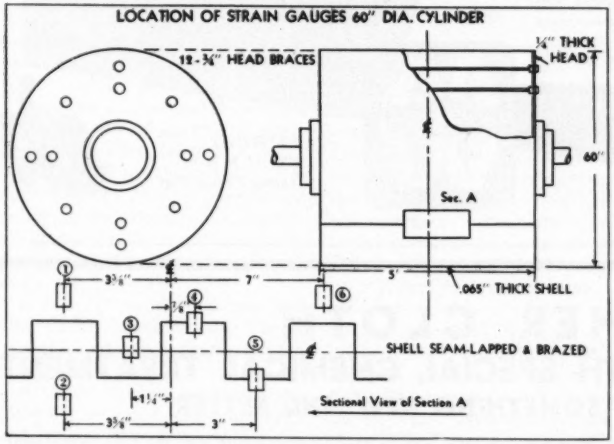
slasher cylinder filled with steam is likely to cause the cylinder shell to collapse. When a cylinder collapses there is little hazard to life and the surrounding property, but invariably the damage to the shell is beyond practical repair.

It is desirable to install in one head of each cylinder two vacuum breakers which should be in diametrically opposite positions. If one of the breakers should become accidentally submerged in condensate or otherwise rendered useless, the second vacuum breaker would be in an opposite position where it may effectively relieve the vacuum.

Recommendations to Prevent Slasher Explosions

1. **Keep traps, dippers, and other condensate removal equipment in good condition.**
2. **Evacuate all condensate by depressing a vacuum breaker in its lowest position before admitting steam to a cold slasher.**
3. **Admit steam at one pound pressure for 30 minutes before rotating. Then gradually increase the pressure to 6 psi. Be sure condensate is evacuated and start rotation. When up to speed, slowly increase steam pressure to operating level.**
4. **Provide adequate safety valve relieving capacity with safety valves set at not over the allowed pressure..**
5. **Provide vacuum breakers and maintain them in good condition.**
6. **When slasher is shut down make sure steam inlet valves are closed tightly to avoid build-up of pressure and condensate within cylinders.**

Enlargement of the longitudinal seam is shown in lower portion of diagram. Section A shows location of 6 SR-4 electric resistance strain gauges used in stress analysis tests of 60-inch slasher cylinder. The gauges permitted measurement of strain in millionths of an inch.



Inspection. Inspectors may detect thin shells on slasher cylinders by noting the "yield" when pressure is applied to the copper shell while the slasher is inoperative. Another check may be made by drilling a ¼" hole about three inches from the ends of the shell, and measuring the thickness with a special micrometer. Based on the measurement, the maximum allowable pressure on the reduced thickness may be established.

The test hole may be closed with a copper rivet with heads on both ends. The rivet should be sealed with silver solder and rubbed smooth on the outside with fine emery paper.

Removal of Dyes From "Dacron" (Fiber V)

The removal of dyes from Dacron (originally designated Fiber V and more recently "Amilar") is usually accomplished by treating the fibrous material with strong inorganic oxidizing or reducing agents, according to the DuPont *Technical Bulletin*. In most cases this treatment has produced results which were unsatisfactory because only a moderate reduction in shade was obtained.

To improve the degree of stripping of dyed staple, top, tow, yarns, and fabrics, consisting wholly or in part of "Dacron," several new methods have been tested at the Technical Laboratory. Of these, a novel process employing "carrier" assistants in conjunction with oxidizing or reducing agents is recommended. At least 80% to 90% color destruction is thus achieved, using certain aromatic carboxyl acids (for example, benzoic acid or salicylic acid) as carriers. Other assistants, including phenols, esters, alcohols, aldehydes, ketones, amines, dibasic acids, and compounds containing mixed groups of these types, are expected to be similarly effective. Compounds from the aromatic series should give better assistant action than alkyl types.

It is of interest to note that an unusual feature of this stripping procedure is the use of specific products, or "carriers," which are employed in the dyeing of "Dacron" to increase the final color value.

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Wartime Difficulties—

Problems of Maintenance and Repair

By RINGGOLD ARDEN

NO SETTLED policy has yet been adopted by the federal government relating to allocations of materials for manufacturing new machinery and repair parts for old machinery. At the present time, anybody can buy new machinery if the manufacturer wants to accept the order, and this manufacturer can deliver the machinery if he can find the materials from which to make it. These materials are getting scarcer and scarcer all the time, and presumably the promised Controlled Materials Plan, which is due to be hatched out in July, will set forth a government policy on the allocations of materials and settle the question of who can buy new machinery and who can't.

It is to be hoped that this will also make provision for liberal quantities of repair parts for old machinery.

A great many managements, planning to scrap old machinery and replace it with new, have let this old machinery steadily deteriorate with little, if any, repairs beyond those barely necessary to keep it running. If this old machinery must serve for a few more years, and at the same time be run overtime to take care of a war emergency, it is going to be absolutely necessary to fix it up in pretty good shape.

Under the present haphazard arrangement for repair parts, a mill having machinery in this classification is just about out of luck, because the present plan permits a mill to order only a portion of the repair parts ordered in the previous year, and therefore those mills which will need repair parts the worst will have practically no allocations if very little overhauling has been done for several years in expectation of scrapping the machinery.

Like so many of these government edicts that are supposed to work and won't, this current regulation about repair parts gives the man who doesn't need them, because he has already overhauled his machinery, the right to buy large quantities of parts; whereas the chap who has done practically no overhauling for some time, and now needs to do a lot of it, can't get the parts that he needs.

The system now in effect for handling repairs is clumsy and virtually unworkable. A plant ordering repair parts extends one of these DO-97 ratings to the supplier. This order for parts may include anywhere from one to a half dozen each of 50 different items. Theoretically, the supplier can pass this rating on to his sources of supply, but practically, the rating is worthless, because the absurdity of sending a manufacturer an order for one ball bearing or one drop forging, or giving a foundry a rating to cover 25 or 30 pounds of castings, or extending this rating to a steel warehouse for a piece of steel six inches long and another piece 18 inches long, is clearly manifest.

If the manufacturer who is to furnish these repair parts carries a fabulous inventory which would keep him going for six months or so without replenishment, he might possibly be able to save up enough of these DO-97 orders to cover enough raw materials and finished sub-assemblies to keep his inventory from becoming exhausted, but it is unlikely that any manufacturer of machinery or parts would carry any such enormous inventory as would be required to operate under this present ill-considered and impractical arrangement.

Furthermore, there are many machine parts which have to be ordered in such quantities that perhaps a six months' or twelve months' supply of that particular item does have to be kept on hand, and maybe it takes six to 12 months after placing an order to get delivery. There are numerous such items encountered in textile machinery. Drop forgings, for example, where a forging plant might require an order for 5,000 to 10,000 pieces to justify setting up for production. Special screw machine parts often must be ordered in lots of many thousand to justify the acceptance of an order. Special motors and ball bearings also have to be ordered in quantities, and deliveries on them are slow.

The only possible way a machinery manufacturer can deliver repair and maintenance parts when they are needed is to be granted an allocation of materials, or a preference rating or directive which will permit him to maintain an inventory. It is perfectly hopeless to try to keep an inventory if the manufacturer of the machinery parts has to sell everything he has in stock in order to accumulate enough of these DO-97 orders to permit him to get some more raw materials to be delivered months in the future.

(*Continued on page* 241)

HOW OTHER MEN
Manage
• Letters to Editor • Technical Discussion •
• Manufacturing Briefs • Kinks & Shorts Cuts • Comments from Readers •

Readers Comment on Causes of Variation in Drawing Sliver

Question Briefed: *Variation in the weight of drawing has been troublesome to us recently. We have taken three weighings from the same head at various times during the day and have found as much as five grains difference in the weight.*

A 14-oz lap is used to make a 65-grain card sliver. Drafts of 6 on first drawing and approximately 7 on finisher drawing produce a 55-grain finisher drawing sliver. Cards are manually stripped twice each eight hours.

We have checked our cards and find no mechanical condition to cause this. Possibly some of the readers of your magazine may have some ideas on this. If so, I would like to hear from them. (CONTRIBUTOR No. 8324, Oct. '50.)

EDITOR TEXTILE INDUSTRIES:

The following comments pertain to CONTRIBUTOR No. 8324 and his problem of variations in the weight of draw-frame slivers. Sometimes the variations are the result of the variations in the methods employed when sizing the slivers. There are some questions that one could ask before attempting an answer.

(a) Does 5 grains variation mean 2½ grains over and 2½ grains under 55 grains per yard?

(b) Do the slivers in the same group (same frame) being sized at the same time vary five grains?

(c) Does the average weight of one group of slivers (say the morning group) weigh five grains more or five grains less than the next group (say the afternoon group)? The answers to these questions may provide a clue to the solution of the problem.

The variation of five grains in 55, or 9.09% could not possibly be caused by card stripping, no matter how and when it was performed. Light slivers always follow stripping, but the lightweight places are staggered; furthermore, the variations would always be on the light side (underweight). If one lightweight sliver were doubled with five slivers weighing 65 grains each, the light sliver

Kink Contest

$ $ Your Idea May Win $100 $ $

This contest ends July 15, 1951

ONE HUNDRED DOLLARS will be awarded for the most helpful short cut, kink, time-saving device, cost-cutting suggestion, or quality improvement idea submitted by July 15.

Contributions eligible for the prize must not have appeared elsewhere and must not be sent to any other publication.

All material will be paid for at regular space rates, upon acceptance, irrespective of the contest winner. Advise when submitting entry if participant's name may be used. Only one award will be made at the close of each contest.

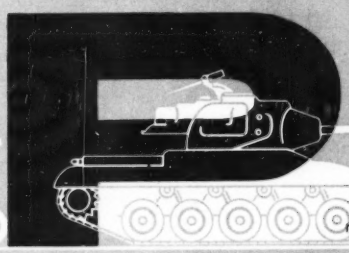
Participants are not restricted as to number of items submitted to compete in the contest. Each entry should be described in sufficient detail to make it easily understood, and where possible, glossy photographs or pencil sketches should be included. Finished drawings are not necessary.

All entries for this contest must be postmarked not later than midnight, July 15, 1951. Address: Editor "Textile Industries," 806 Peachtree Street, N. E., Atlanta 5, Georgia.

A Recalled to Active Duty!

A Amanthrene*

OLIVE GREEN B
DARK OLIVE B



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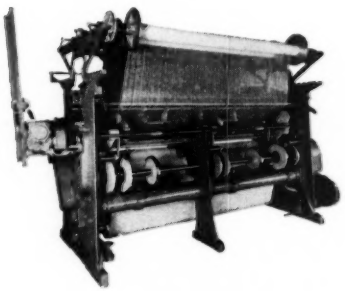

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would have to weigh 25 grains per yard. This would give a finished sliver of 50 grains per yard. In such a case the sliver stop motion at the feed end of the frame should come into operation to prevent the 25-grain sliver from proceeding.

Variation in relative humidity could not account for a 9.09% variation (always on the light weight side) in the weight of the slivers. If it were possible to have the slivers being sized in the morning charged with the normal percentage of moisture (say 8.5%), and the slivers sized in the afternoon being bone-dry there would be a reduction of weight, due to lack of moisture, of 4.7 grains per yard. Such conditions never exist.

When it is necessary to trace the cause of variations in slivers, the first place to visit is the sizing bench. Variation in slivers may be another way of saying variation in the methods employed to size the slivers. There may be many different methods of measuring and weighing slivers, but there should be one, and only one, tolerated in a mill. The writer recalls one mill where it was a case of two teeth on this change gear and two teeth off that change gear every time the draw-frames were sized. The operator responsible for the sizing and the gear changing was given another job and no more was heard of variations in the weight of draw-frame slivers.

The "running-off" of a given number of yards of sliver for weighing should be performed in exactly the same manner for every sample, every day. A single and consistent technique should be introduced.

The sample should be placed exactly on the same spot behind the measuring drum, and one sample only should be on the spot at one time.

The sliver should be threaded and the leading end of the sliver "nipped off" at the same distance from the nip of the drum and the brass press roll. To facilitate this, a line about one inch in length should be cut on the shroud plate and the drum. This line marks the start and the finish of the measuring operation.

The drum should be turned at the same speed, all the time, so that the "drag" on the sliver is about the same for all samples. The sizing samples should be as near the same length as possible. They should be made into a ball or bundle of the same bulk or density and placed in the pan of the scale.

The scale should be protected from the drafts of open windows, and during the actual weighing of the sample there should be no breathing into one of the scale pans. The operator's breath should be held for one or two seconds until the scale has "settled" on the exact weight.

There should be no talking, and above all, no laughing during the weighing operation. The air should be "still" around the scale.

The scale should be placed on a solid bench or table away from vibrating floors and should be handled gently in order that its equilibrium may be preserved.

After all precautions have been taken, if there are variations in the weight of the slivers, it may be reasonably assumed that the variations exist in the slivers. Steps may then be taken to ascertain the cause.

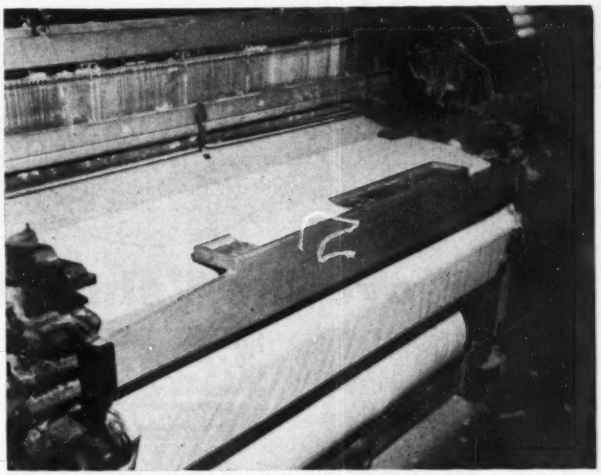
CONTRIBUTOR No. 8362

◆

EDITOR TEXTILE INDUSTRIES:

Once I had an experience similar to the one described by CONTRIBUTOR No. 8324, and the methods we adopted and which worked in our case may be applicable in this instance.

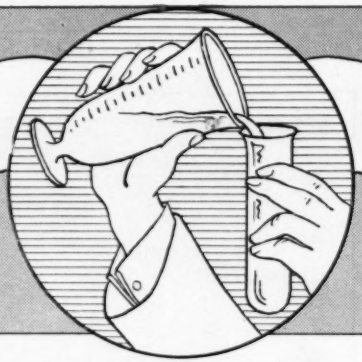
When a card was stripped we placed a specially marked can on



Weave-Room Follow-Up Aids Quality Control

Loom fixers utilize weaver's notations on data sheets kept at each loom in one mill. The weavers on each shift make notes of any defect found in the fabric and also any malfunction of loom parts. The notes are delivered to the overseer of weaving at the end of each shift, and the overseer notifies the department or personnel responsible to remedy the trouble. This system has been found effective in discovering sources of trouble, seconds, and machine maladjustments in the early stages so the trouble can be "nipped in the bud."

Tested!



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ASK FOR BOOKLET NO. 7

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the machine. Broad white bands were painted near the top of the cans, and the section men were instructed to see that only one of these painted cans was put up with five ordinary cans. The first drawing was fed into cans identified with two broad bands, and the finished drawing was put into cans marked with three bands.

Strict supervision was then maintained to be sure no cans got out of their appointed place, and our troublesome variation disappeared. The variation in this instance may have been caused by a number of light slivers (after the cards had been stripped) being put up together, or the operator may have brought finisher cans from the front of the machine to put them through a second time, either inadvertently or just to keep the machine running (if they were paid on a piece work basis).

CONTRIBUTOR No. 8366

Causes Stated for Jerked-In Filling

Question Briefed: *Our Northrop and Schonherr C.F.C. automatic looms are giving trouble with the cut end of the empty pirns and slack ends being pulled into the warps.*

Any suggestions from your readers for eliminating this problem will be greatly appreciated. (CONTRIBUTOR No. 8353, *April* 1951.)

EDITOR TEXTILE INDUSTRIES:

If your reader's looms are equipped with the new type Stafford thread cutter and are set properly, he should have no trouble with jerked-in filling. On the other hand, if he is still using the old type thread cutter, I could write a book and still not tell him how to overcome his trouble.

As you know, the old type cutter is mounted on the filling feeler. When the transfer occurs, even though the cutter works properly, the shuttle is still threaded with the yarn from the outgoing bobbin. About all I could say regarding this is to have his thread cutter knife close about ¼" before the latch finger comes in contact with the transfer bunter. Also, he should make sure that there is no obstruction in the path of the outgoing bobbin. Too many bobbins in his bobbin cans will prevent the bobbin having the proper distance to fall, causing this filling tail to remain in the eye of the shuttle, and, of course it will be snatched back into the cloth.

CONTRIBUTOR No. 8354

KINK CONTEST WINNER

A check for $100 has been sent to **J. R. Stewart,** Hamilton Beach, Ontario, Canada, for his winning entry in the Kink Contest which ended March 15. The kink will appear in an early issue.

Kinks are paid for at regular space rates, and an additional $100 is awarded the winner in each contest. See page 172 for announcement of current contest.

Weight Holder for Belger Tester

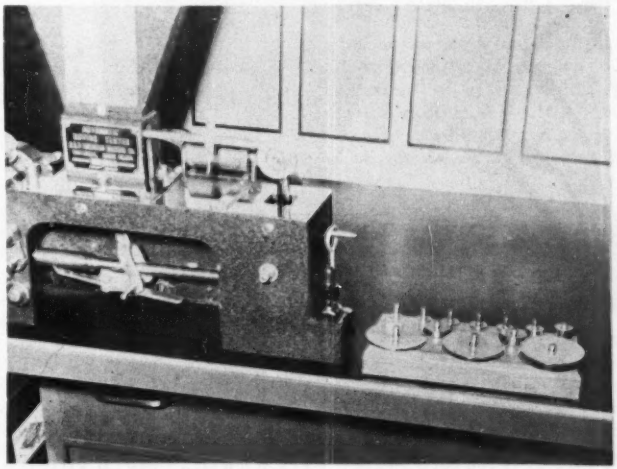
Permits convenient arrangement of weights for easy access and selection.

USUALLY the weights to be put on the Belger roving tester are placed one atop another on a peg located on the machine. When the operator desires a certain weight, she has to take all of the weights off the peg and look at each one closely to determine if she is using the correct weight. This is time consuming and lends itself to error in handling the small weights.

When the operator finishes with the weights used, she must rearrange them and stack them back on the peg in the proper order.

A new home-made weight holder is in use to aid laboratory operators in keeping the weights in order and to help prevent errors

Note new weight holder beside Belger roving tester. This arrangement permits easy and quick selection of correct weight.



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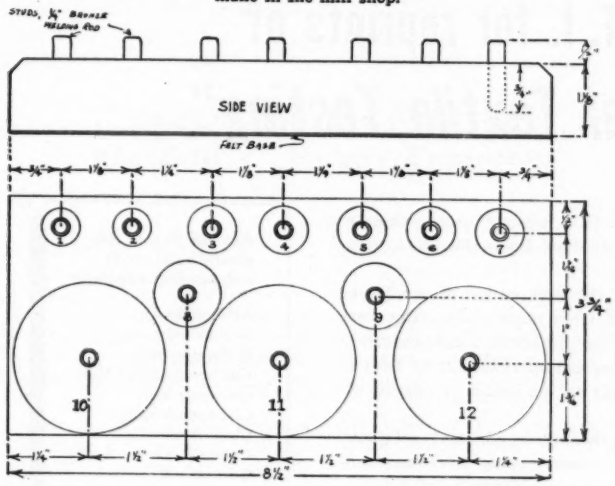
in the testing procedure (see accompanying photo).

With this new holder the operator can simply lift off the weight needed, or the combination of weights, and when she finishes with the test, she can drop them back on the pegs on the holder. It is much speedier, and she is less likely to make an error. Also, she handles only those weights which she needs, instead of all of them each time; furthermore the operator can tell at a glance if one of the weights is missing.

The new weight holder is simple and easy to make. Details of construction may be seen in the accompanying sketch.

Details of construction of weight holder which is simple and easy to make in the mill shop.



Card Doffer Cylinder Function

Question Briefed: *I should like to learn what some practical carders and mill superintendents have to say about the card doffer cylinder. What function does the doffer cylinder have in the carding operation?* (CONTRIBUTOR No. 8357, *March* 1951.)

EDITOR TEXTILE INDUSTRIES:

In answer to CONTRIBUTOR No. 8357 regarding the function of the doffer on a card, I should like to present my comments on the subject.

First, the main function of the process of carding is not to parallelize the fibers in the stock fed into it; instead its main function is to loosen and separate the individual fibers from the mass of fibers in the picker lap. A close examination of a small piece of a picker lap under a microscope shows that fibers are matted together in a tangled and irregular mass. The tangled mass is made by the action of the air currents in placing the fibers upon the picker screens and also the pressure exerted upon the sheet of stock by the calender rolls.

The action of the licker-in and the flats and cylinder is not parallelization of the fibers but merely separation of the fibers from the matted mass and preparing the fibers for parallelizing in the operations on drawing and fly frames. The function of the doffer is implied by its name; mainly to doff or remove the fibers from the cylinder.

The teeth of the doffer wire are pointed in the opposite direction to the cylinder clothing, and the doffer revolves in the opposite direction at a much slower speed. The action between the doffer and the cylinder is more of a condensing or minus draft action as the fibers are removed from the rapidly revolving cylinder onto the slower moving doffer. In figuring overall draft of a card, it is a good idea to figure draft all the way from lap rolls through to front calender rolls in order to get the true draft of the machine.

Most of the cleaning done by a card is done before the stock reaches the doffer; however a small amount of cleaning of the stock is done when the stock goes from the cylinder to the doffer. Evidence of this cleaning is attested by the motes and fly that can be found under the doffer at the front of the card. Also a certain amount of waste drops from the web as it goes from the doffer to the coiler calender rolls. It is only necessary to check the strips from a doffer to find that quite a bit of leaf, motes, and trash are removed from the stock and embedded in the wire of the doffer. There is a certain amount of cleaning done by the doffer, but this function is secondary to the actual job of the doffer which is to remove the stock from the cylinder and present the stock to the doffer comb so that it can be stripped off and drawn into a sliver by the calender rolls.

It is not necessary for the doffer to be any one specific size. Evidence to this is attested by the fact that there are 24-inch, 26-inch, 27-inch, and 28-inch doffers being used on present machinery of various makes. The transfer of the stock from cylinder to doffer is made at the point where the two are tangent, and the large size for the doffer is intended to make the transfer easier and to have as

LEADERSHIP WHERE IT COUNTS. ..FOR YOU!

Mills operating 4½ million spindles wrote T. I. for reprints of *"Physical Textile Testing"*

The article, appearing in March 1951, was a 48-page reference work based on the experience of West Point Manufacturing Company over a 25-year period.

In less than four weeks from the appearance of the issue, requests for reprints were received from mills constituting over 20% of the productive capacity of the American textile industry. This magnificent response is another example of TEXTILE INDUSTRIES' leadership in readership built on the sound foundation of true service to textile men.

Once again TEXTILE INDUSTRIES through its editorial enterprise has made a notable contribution to industry progress; demonstrating why mill men consistently favor it as their most helpful publication in the solution of production problems.

This is the basic reason why T. I. has the largest textile *mill circulation* in the U. S. and Canada. For advertisers, this is *business-getting* circulation . . . the *men in the mills* are the men who buy. You'll reach and sell more of them through T. I.

Partial list of the prominent mills requesting reprints

Arista Mills Co.
Beaunit Mills, Inc.
Burlington Mills
California Cotton Mills
Callaway Mills
Chicopee Mfg. Co.
Clark Thread Co.
Collins & Aikman Corp.
Columbia Mills
Cone Mills Corp.
Dan River
Dixie Mercerizing Co.
Drayton Mills
Dunson Mills
Fairforest Co.
Fieldcrest Mills
Gaffney Mfg. Co.
Gastonia Combed Yarn
Goodyear
Hannah Pickett Worsted
Huntsville Mfg. Co.
La France Industries
Muscogee Mfg. Co.
New Market Mfg. Co.
Pacific Mills
Pepperell Mfg. Co.
F. W. Poe Mfg. Co.
Seminole Mills
Shelby Cotton Mills
Spartan Mills
Springs Cotton Mills
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Textile Industries

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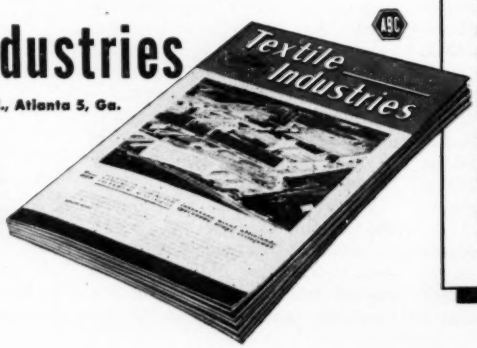
W.R.C. SMITH PUBLICATIONS



much surface as possible of the doffer to be in contact with the cylinder so that the transfer is made easier so the fibers are not injured. Aside from this one point, I don't think it makes too much difference how large or small the diameter of the doffer is, as long as the surface speed and direction of motion are correct.

The size of the doffer does not influence the speed of the doffer comb as long as the same relative surface speed of the doffer is maintained. If the doffer were made smaller in diameter it would be necessary to increase the rpm of the doffer in order to maintain proper surface speed. It is doubtful that the present doffer comb would work satisfactorily if the diameter of the doffer were cut drastically. The angle of contact between the comb and the doffer would be changed and it might be necessary to redesign the comb blade before it would strip the doffer properly.

CONTRIBUTOR No. 8361

"Casting Out for Jacquard Flexibility" Draws Comment

EDITOR TEXTILE INDUSTRIES:

I enjoyed reading the article on "Casting Out for Jacquard Flexibility" in the December issue of TEXTILE INDUSTRIES. Mr. Barrett should be congratulated for his contribution to the literature on this subject.

The general rules laid down in the article, if followed, should permit castout layouts which may be easily understood and readily handled by the warp hands, weavers, and smash hands. It is of course not practical to lay down rules to cover every contingency. Each mill will have to meet its own problems and adapt castouts to its available harness ties to make the specific fabrics and constructions desired.

Several years ago I worked out a rather unusual castout that may be of interest to the readers of TEXTILE INDUSTRIES. The Jacquard was a double machine with a fine index for fine upholstery fabrics. Both machines were tied alike; 1280 hooks to 6¾ inches, or four repeats of 2560 hooks and 13½ inches to make goods 54 inches wide with approximately 190 sley. We wanted to make a fabric with a 27-inch repeat; two repeats in the width of 54 inches.

The problem was solved by the construction of a fabric of 95 sley. All hooks on the Jacquard were used but in the first and third repeats in the comberboard the even numbered harnesses were cast out, and in the second and fourth sections the odd numbered harnesses were cast out. The design was painted on 2560 hooks which now represented a repeat of 27 inches instead of the original 13½.

The cards were cut for the first and third sections on the odd hooks, and for the second and fourth sections on the even hooks. For the benefit of the card cutter the design was ruled off in rows of eight hooks instead of the customary 16 hooks.

CONTRIBUTOR No. 8375

Three-Ply Yarn Improves Selvage

EDITOR TEXTILE INDUSTRIES:

We were having considerable trouble with selvage threads breaking on 3- and 4-harness drills and twills and on sheetings and duck cloth until we put 3-ply threads on the beams and ran these threads out on the margin of the cylinders so they would dry well.

We drew one thread to each harness eye and one thread to each reed dent. We used three threads in No. 3 harness and only two in No. 4 harness. One thread was drawn in the back harness and one thread in the second harness at the right side. One thread was drawn in each of the first and third harnesses at the left side. This gave a strong selvage for the filling to pull on at each change of the harnesses and gave relief from excessive selvage thread breakage.

On two-harness goods we drew one thread in each harness and one thread to each dent in the reed. Good smooth selvages were made and they were not tighter than the body of the cloth. The changes in selvage construction permitted an increase in production, and our weavers were relieved of a lot of unnecessary work.

CONTRIBUTOR No. 8346

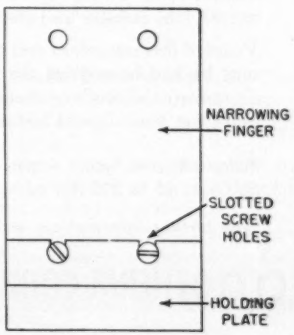
Full-Fashioned Narrowing Finger

EDITOR TEXTILE INDUSTRIES:

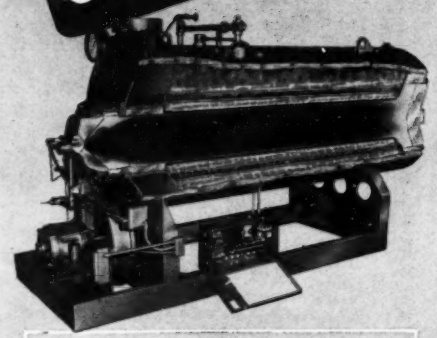
A simple idea which may be used to simplify a narrowing finger so that points may be changed quickly, and also to eliminate the possibility of dropping the screws down into the machine, is shown in the accompanying illustration. The suggestion is applicable to full-fashioned narrowing fingers on Reading machines, but it may be adapted for use on other full-fashioned knitting machines.

The plate can be removed without taking the screws out altogether. Approximately one turn of a screwdriver is sufficient to remove the plate.

CONTRIBUTOR No. 8371



NEW *Cyclonic* COMBUSTION



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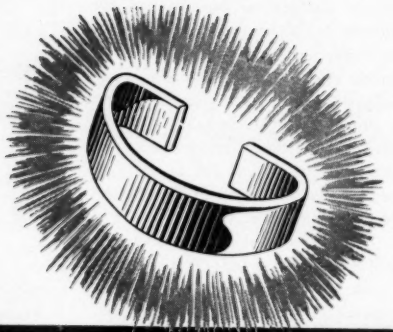

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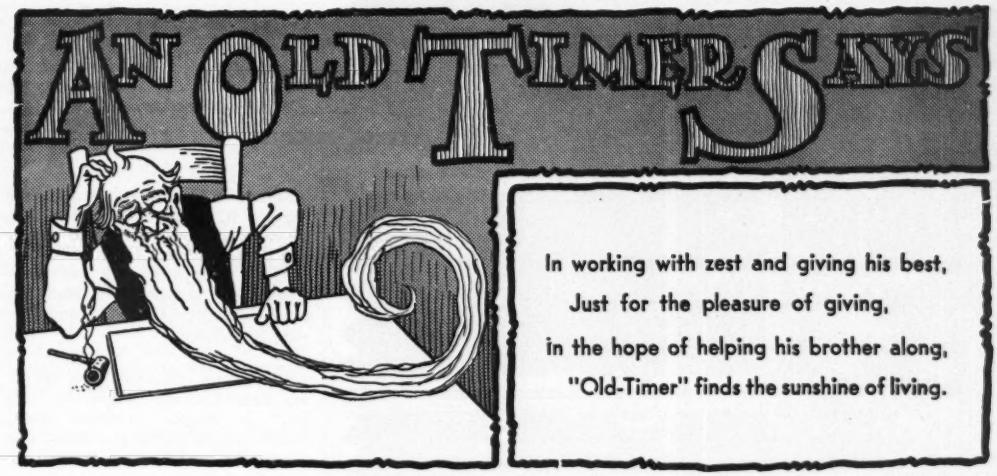

AN OLD TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
in the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

Reminiscing on Mill Publications

August 1915. That is the date on a six-page mill newspaper which OLD-TIMER started a few years previous to that date. Ran across this copy while rummaging through some old files.

Naturally it brings back many memories; some good, some bad—darn bad. The heading of the first article on the front page is: "How Westbrooks Gets the Cloth," and reading down through the article we realized that Westbrooks was operating hand threading shuttles, because in explaining to the other section men how he got more cloth than they did, we quote:

"His shuttles are all pushed back (to enable him to walk down alley soon as power came on and start his looms quickly) and he therefore gets a jump on other fixers who have to push their shuttles back before pulling the lever on. And all his shuttles have a full bobbin in them and his looms will run longer than other looms which only have a piece of a filling quill in them."

Can you modern textile executives imagine a section of weavers who would take the time after stopping time to put a full quill in each shuttle, and a section man who would be standing at his section next morning waiting for the wheel to start so he could rush down the alley starting all of his looms in order to gain a few minutes before all the weavers arrived at their work?

Yea, we know it's "agin" the law now, but boy, how we old-timers used to work to get an extra inch of cloth.

Then here is a list of card room men who made over $20.00 on that pay roll. Pay day was semi-monthly, and often a two weeks' payroll would have an extra day. Another article in this little newspaper says: "Most any good weaver can make $500 to $600 per year, and that sure beats a one horse crop on the farm."

The most significant fact which comes to mind as we look over this little newspaper is not only the fact that, so far as we know, it was one of the first papers or so-called house organs published in the South, but the fact that it was entirely self-supporting. The mill management did not give OLD-TIMER one penny toward the cost of publishing the little paper.

During practically the thirty-six years since then we have seen many mills publish papers or employee publications. Some of them cost considerable outlay of dollars, but few are much appreciated by the operatives. Here is a thought for you gentlemen—Why do operatives seem to resent, in some way, a newspaper printed by the "company" and in very few instances show any appreciation of such a publication?

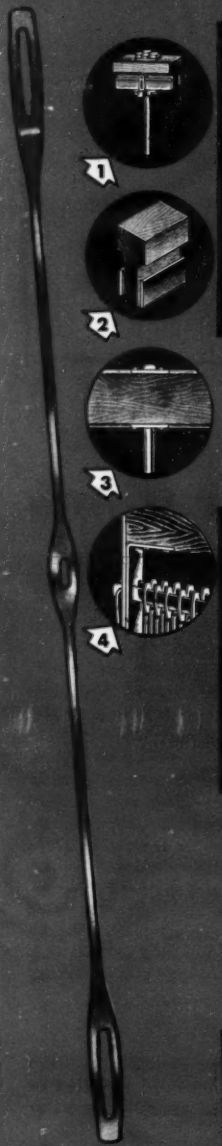
For the answer, we suggest that you read a few Old-Timer articles about human nature.

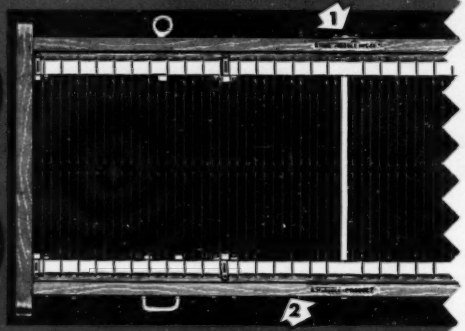
Love Your Work? No, there is no innate love for any kind of work! But you can learn to enjoy your job.

First study everything you can find to make you more efficient in the work you are doing.

It is a natural born trait in a human being to want to excel. Excel in the work you are doing and you will get a lot of pleasure out of *work*.

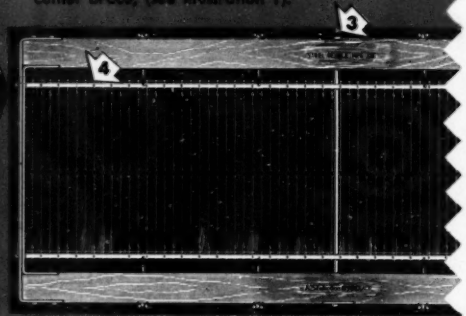
Stehedco . . .





MASTER DUCK HARNESS

Best grade Hickory, machined to a T-shape (see illustration 2) for greatest strength. Parts made to withstand severe strain to which it will be subjected. Equipped with superior bolted tubular center brace, (see illustration 1).



NUMBER DUCK HARNESS

Finest grade, scientifically seasoned hardwood —correct thickness and depth. Double heddle rods of ½" specially tempered steel permit maximum number of heddles — no crowding. Patented, heavy, double steel end braces, and lock hooks plus superior bolted tubular center brace add ruggedness and rigidity to frame; no sagging or variation over entire frame length.

FLAT STEEL COTTON DUCK HEDDLES

Have special, superior, smooth finish and polish; high degree of flexibility and correctly shaped and turned eye.

COTTON DUCK REEDS

Rigid construction—highly polished dent wire with rounded edges. Made in any size and number of dents. All reeds are dated and identified.

STEHEDCO and SOUTHERN "Weave the World's Needs"

SUPPLIERS News

WHAT THEY ARE DOING

Should the international situation require it, steps will be taken to manufacture parts for Uster textile equipment in the United States, according to a spokesman for **Uster Corp.** Uster equipment is manufactured by Zellweger Ltd., Uster, Zurich, Switzerland.

Jack Jones, formerly with Scranton Lace Co., has joined the sales staff of **Bryant Chemical Corp.**, North Quincy, Mass. Mr. Jones will cover Rhode Island and southern New England.

Hyatt Bearings Division, General Motors Corp., has announced the appointment of Frank U. Naughton, Jr., as manager of its eastern sales division.

E. C. Delano succeeds L. E. Lynde, newly elected vice-president, as manager of the New England district of **Westinghouse Electric Corp.** In this district Wallace B. Strathdee will serve as manager of the marine and industrial departments, and H. Raymond Benson will be in charge of the transportation department.

Foxboro Co. has opened a new office at 618 W. Church Ave., Knoxville 16, Tenn. Marvin L. Cleaton, Jr., has been transferred from the Columbus, Ohio, office to become branch manager at Knoxville.

John L. Torgesen has joined the Research Department of **Clinton Foods, Inc.** Dr. Torgesen was formerly with the Corn Industries Research Foundation. H. A. Bendixen, previously sales manager of primary bulk products, is now general sales manager of the corn processing division. A. C. Junge has succeeded Mr. Bendixen in the primary bulk department.

Edwin R. Jerome was recently elected vice-president and general manager of **Victor Ring Traveler Co.**

R. F. Merwin has been made president and general manager of **Eriez Manufacturing Co.**, succeeding O. F. Merwin, now chairman of the board of directors.

Lutner S. Roehm, formerly with the Dow Chemical Co., has joined **A. E. Staley Manufacturing Co.** in the newly created position of manager of the corn division. Paul R. Ray has left Doughboy Industries, Inc., to become manager of the soybean division at Staley.

Edward Burke, president and general manager of The Burke Co., San Francisco, Cal., has been appointed district representative for **The Hansen Manufacturing Co.,** Cleveland, O. The Burke Co. is exclusive distributor in Northern California for Hansen couplings used in pneumatic and hydraulic service.

Previously with Brown-Durrell Co., Cambridge, Mass., Edward L.

Mr. Murphy

Murphy, Jr., has joined the **Bentley Knitting Machinery Organization, Inc.,** as sales engineer.

A direct sales office at 221 N. LaSalle St., Chicago, Ill., has been opened by **Emery Industries, Inc.,** with E. G. Hibarger as district manager. Mr. Hibarger was formerly Cincinnati district manager. D. R. Robertson and A. R. McDermott have been appointed to the Chicago district as chemical sales representatives. With this new set-up, services of the firm's Chicago representative, Clarence Morgan, Inc., have been discontinued.

Hendrik Van Brederode has been appointed to represent the **Emmons Loom Harness Co.,** in northern New Jersey, southern New York State, and eastern Pennsylvania. The firm's export company has announced the appointment of Lowenstein & Stewart, S. A. C., Casilla 2195, Santiago, Chile, to replace W. L. Robinson as sales agent for the Emmons' line of weave room equipment.

John C. Daly, vice-president and manager of the burlap department, and David McGill, president of Stein-

and Southern

Stehedco and Southern

COTTON DUCK LOOM HARNESS EQUIPMENT

If You are Weaving, or Expect to Weave Cotton Duck

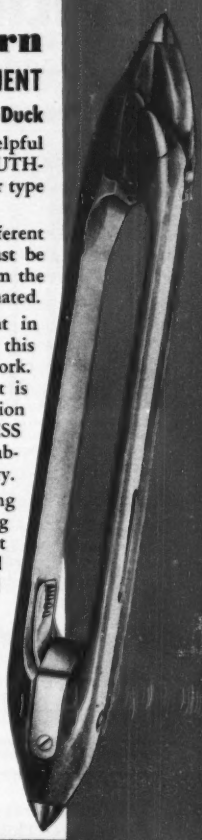
. . . You'll be interested in a highly specialized, helpful service—obtainable from STEHEDCO and SOUTHERN—for the successful weaving of this particular type of fabric.

As you know, changing over to weaving a different fabric presents problems. Many adjustments must be made. But, if these can be reduced to a minimum the headache caused by such a change, can be eliminated.

Change-over-problems are particularly evident in Cotton Duck Weaving. Due to the weight of this fabric, ordinary equipment will not do the work. Proportionately heavier loom harness equipment is required to withstand the added pounding, tension and strain. STEHEDCO and SOUTHERN HARNESS specifically designed and made for weaving this fabric will be found most economical and satisfactory.

STEHEDCO and SOUTHERN have been helping mills meet Government Cotton Duck demands long before the days of World War Two. In this present emergency, mill orders for refills of orders placed over a decade ago, have been processed and shipped without delay.

Yes, today STEHEDCO and SOUTHERN can meet your requirements on demand, and for those mills not as familiar with the details in weaving this fabric, STEHEDCO and SOUTHERN—mill trained—Field Engineers operating out of strategically located plants and offices will gladly cooperate in helping to overcome any obstacles encountered in your change-over. Phone, wire or write nearest plant.



COTTON DUCK SHUTTLE EYE

No. 45 brass, two tunnel eye with felt in back. (Interchangeable with No. 64) All Southern Shuttle eyes are cast in Southern's own new, modern foundry.

COTTON DUCK SHUTTLE (AC-9)

A regular left hand shuttle for weaving heavy yarn, equipped with a No. 45 standard wound two tunnel hole brass eye and No. 69 Four groove grip.

1-1-5

STEEL HEDDLE MFG. CO.

2100 W. ALLEGHENY AVENUE PHILADELPHIA 32, PA.

Other Offices and Plants

Greenville, S. C. • Atlanta, Ga. • Greensboro, N. C. • Providence, R. I.

SOUTHERN SHUTTLES Paris Plant . . . Greenville, S. C.

A Division of STEEL HEDDLE MFG. CO.

STEEL HEDDLE COMPANY OF CANADA, LIMITED

310 St. Hubert Street Granby, Quebec, Canada

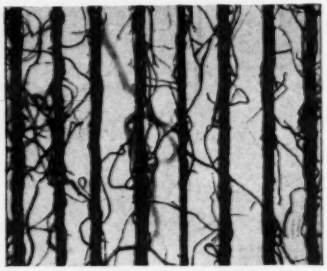
Photo Micrographs

Give Visual Proof that

GAULIN HOMOGENIZERS

Provide Better Size, Improve and Strengthen Yarn, Reduce Rejects

Longitudinal view of 40s yarn coated with homogenized size. Notice the exceptional degree of fibre lay.



Longitudinal view of 40s yarn with boiled size. Note the irregular degree of fibre lay.

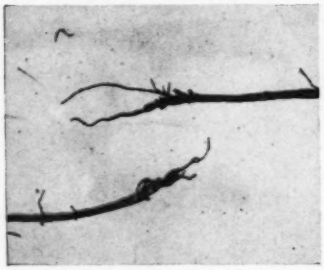
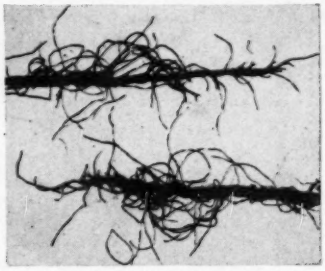
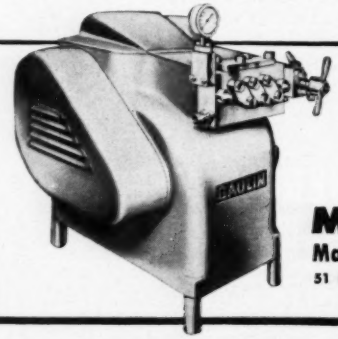


Photo micrograph shows break of homogenized single 60s yarn. Note the uniform fibres.



Break of 60s yarn coated with boiled size. Notice the irregular break throughout.

The illustrations above prove that Gaulin Size Homogenizers improve size quality. This assures better, more uniform size penetration into yarn which results in a stronger yarn. Homogenized size increase loom production, reduces rejects. Remember, too, Gaulin Homogenizers reduce cooking time, thus stepping up production and reducing costs.



Write for complete information on Gaulin Homogenizers, today.

Gaulin
TRADE MARK

Manton Gaulin
Manufacturing Company, Inc.
51 GARDEN STREET, EVERETT 49, MASS.

SUPPLIERS News
WHAT THEY ARE DOING

Hall Ltd., Toronto, have been named to the board of directors of **Stein, Hall & Co., Inc.** Daniel H. Lipman, formerly manager of the firm's New York sales office, has been appointed assistant general sales manager. He will be succeeded in the New York office by Edwin A. O'Neill, formerly of the St. Louis branch.

Victor Saxl, sales manager and engineer for **Stellite American Corp.**, has been appointed a vice-president of the company.

Bruce W. Wert, sales promotion staff man for **Goodyear Tire & Rubber Co.**, succeeds R. D. Firestone, re-

Mr. Wert

signed, as head of advertising media. Mr. Wert will handle Goodyear's contacts with publishers' representatives, and supervise the firm's advertising schedules in magazines, newspapers, etc.

Cutler-Hammer, Inc., Milwaukee, Wis., has opened a sales office at 120 East Third Street, Charlotte, N. C., to be operated as a branch of the company's Atlanta, Ga., district sales office. It will be staffed by Frank A. Miller, Jr., and C. Lee Shaw.

John L. Gillis recently succeeded William G. Krummrich, deceased, as general manager of **Monsanto Chemical Co.'s** organic chemicals division, with headquarters in St. Louis, Mo. Mr. Gillis' former position as vice president and general manager of the firm's Merrimac division at Boston has been assumed by Charles H. Sommer, Jr.

A large petro-chemical and cellulose acetate plant is under construction by **Celanese Corp. of America** in the Edmonton area of Alberta, Canada, according to a recent report. A

new Celanese affiliate named Canadian Chemical Co., Ltd., has been formed to build and operate the plant.

Allis Chalmers Manufacturing Co. has announced the appointment of Chester W. Schweers as director of sales of the general machinery division. Mr. Schweers has been with the organization for more than twenty years. Merton M. York, manager of the Boston District office, was named manager of the New England region to succeed Mr. Schweers.

Roger W. Smith, formerly of West Point, Miss., and previously affiliated with the advertising department of Gates Rubber Co., has been made coordinator of sales promotion activities between the Memphis and New York offices of the **National Cotton Council.**

Three new industrial managers and eighteen additional men have been assigned to the field staff of the Brown Instruments Division of **Minneapolis-Honeywell Regulator Co.** Joseph H. Matulis has been made industrial manager of the Chicago branch; Willard Smith of the Pittsburgh branch; and Joseph H. Bowman of the Buffalo office.

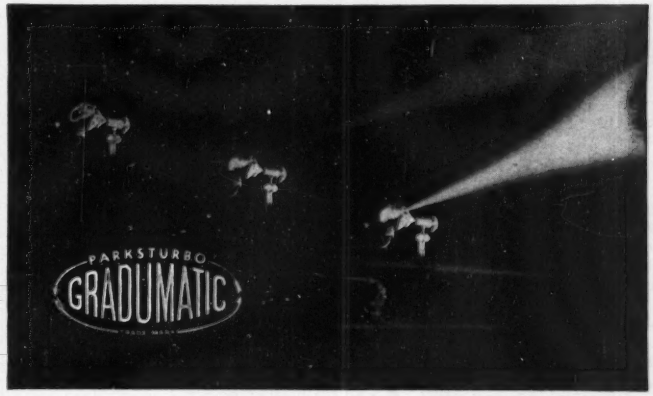
The plants of **American Viscose Corp.,** at Nitro, W. Va., Front Royal, and Roanoke, Va., are being expanded to increase production of the firm's viscose rayon staple and rayon tire cord.

R. E. L. Holt, Jr., & Associates, Greensboro, N. C., have been appointed by **The Industrial Dryer Corp.,** as agents for "H-W" conditioners in the southern territory.

The American Safety Table Co., Inc., has announced the appointment of Samuel S. Wolff as chief engineer. Before joining this firm, Mr. Wolff was associated with the Century Electric Co.

Rodney F. Lauer, with **York Corp.,** since 1930 and in charge of the Pacific district since 1944, has been made vice-president in charge of engineering and research. Mr. Lauer was one of America's pioneers in the development of high altitude chambers and all-weather rooms for the Armed Forces.

C. F. Carpenter, industrial consultant, 11 West 42nd St., New York,



If you could have what you want

in Direct

Humidification

How about a system that shoots the works when conditions warrant it? Or . . . delivers a mere breath, when that little will do? AND . . . every varying amount in between, automatically; from 16 pounds (per hour, that is) from each atomizer to a mere 2 pounds? Spray so fog-like, its 2-pound delivery is hard to see . . . and its 16-pound delivery hard to believe.

But would you care for it unless it was safe from overflow, leakage or wetting down? And wouldn't you appreciate it if air and water ports . . . both were self-cleaning?

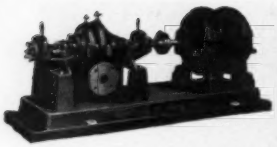
Advantageous as all this is, would you bother with such a system if it ate its head off in power? Or upkeep? Or repairs? Or had to be tinkered with, or frequently tested or readjusted?

All these improvements are now available in the new ParksTurbo Gradumatic Humidifying System.

Write for Bulletin 450

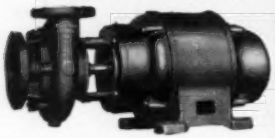
Parks-Cramer Company

Fitchburg, Mass. PARKS Certified Climate REG. U.S. PAT. OFF. Charlotte, N. C.



TYPE "RR" PUMPS

For handling clear water, any temperature, at high pressures. Widely used for boiler feed. Rugged, efficient. Bulletin 980-B.



CLOSE-COUPLED PUMPS

A real space-saving design with no sacrifice in durability and efficiency. For clear water, but can be had in special alloys. Bulletin 975-B.

SUMP PUMPS

Self-contained vertical units ready to install. Rugged, trouble-free, with ball bearing thrust and enclosed shaft. Bulletin 963-F.

"Buffalo" PUMPS

MEAN MONEY SAVED THROUGH TROUBLE AVOIDED

True economy in pumping is in the pump you can install—and practically forget! "Buffalo" has always built such pumps. First cost may be a few dollars more than the "low-bidder" pump, but careful, sound "Buffalo" design and construction has always paid for itself in (1) longer years on the job, (2) fewer and shorter shutdowns, and (3) high efficiency.

As the pictures on this page show, you can pick a "Buffalo" Centrifugal Pump that's tailor-made for just about any liquid job you have. WRITE FOR BULLETINS!

BUFFALO PUMPS, INC.
175 MORTIMER ST. BUFFALO, N. Y.
Canada Pumps Ltd., Kitchener, Ont.

Branch Offices in all Principal Cities

— And For FANS . . .

. . . you'll find a full line of centrifugal, axial flow and propeller fans in the sizes and arrangements you want—a fan for every job! For best results on your next fan installation, look to "Buffalo" . . . First For Fans. For complete information, write:

BUFFALO FORGE COMPANY
175 MORTIMER ST. BUFFALO, N. Y.
Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

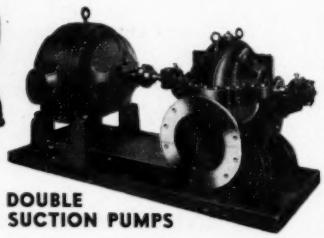
Branch Offices in all Principal Cities

SPECIAL ALLOY PUMPS

Single suction, full ball bearing pumps, suitable for construction in most machineable alloys. Bulletin 982.

LEAD-ACID AND OTHER CHEMICAL PUMPS

"Buffalo" Chemical Pumps are available with lead lining like the pump shown, or rubber lined or of special alloys. Bulletin 982.



DOUBLE SUCTION PUMPS

For top performance on clear water jobs, including air washers. these are of the finest materials and construction. Bulletin 955-N.

SUPPLIERS News — WHAT THEY ARE DOING

N. Y., is representative in the U. S. for **Dawe Instruments, Ltd.,** of England.

Raymond Lehmann, special technician for Somatex, agent in France for **Hemphill Co.'s** knitting machines, visited Pawtucket, R. I., to make an intensive study of Hemphill's solid color pattern and wrap-reverse machines, for the purpose of operating these machines at the Lille, France, Exhibition.

S. Y. Stribling has been made sales manager of Suntone Pigment Colors for Warwick Chemical Co., a division of **Sun Chemical Corp.** Herman Goldstein was appointed manager of production and development for the firm.

George S. Barton was elected chairman of the board of directors and Charles S. Barton was made president of **Rice Barton Corp.,** at a recent board meeting. Other officers elected were: Lester M. Start and Everett W. Clem, vice-presidents; Stuart B. Dickerman, treasurer; and Stephen B. Stafford, secretary.

John deP. Burkitt has retired after 34 years in the cotton thread business. Mr. Burkitt started with The Bay State Thread Works in 1917, later joined The American Thread Co., and in 1930 became associated with **The Spool Cotton Co.,** as industrial sales executive.

George A. Urlaub, associated with the knitting industry for the past 39 years, has joined **Lee Dye Works, Inc.,** in a technical sales service capacity.

The Poughkeepsie, N. Y., plant of **International Business Machines Corp.,** is undergoing an expansion program which will approximately double its size. When completed, the plant will have about 1,200,000 sq ft manufacturing floor space.

L. V. Potter, with the organization since 1927, has been appointed a director of **Muschamp Taylor Ltd.,** Manchester, England.

Edwin H. Williamson has joined **Burlington Engineering Co.,** as vice-

president in charge of manufacturing. J. A. Okey, formerly vice-president in the sales department, has left the firm.

Link-Belt Co. has announced the appointment of Harry G. Andersen, formerly district sales engineer at Milwaukee, Wis., as district manager at Birmingham, Ala. Mr. Andersen succeeds J. T. Bell, Jr., who has been called back into the U. S. Army.

Carter G. Cook, formerly with the A. C. Lawrence Leather Co., has joined the research staff of **Fabric Research Laboratories.**

F. Gorham Brigham, Jr., was recently elected assistant treasurer of

Mr. Brigham

the **Saco-Lowell Shops.** He has been with the firm since 1945, and in 1949 was elected assistant secretary.

Dr. Thonet C. Dauphine' has been appointed manager of sales development of **Hooker Electrochemical Co.** Before joining Hooker, Dr. Dauphine' was with Oronite Chemical Co., and prior to that with California Research Corp., both subsidiaries of Standard Oil Co., of California.

A new division to manufacture fiber glass has been formed by **Libbey-Owens-Ford Glass Co.,** and will occupy the firm's factory in Parkersburg, W. Va. Donald L. McClure will be factory manager, with Robert M. Whittington as office manager. The new plant engineer is Homer Wolfe, formerly with the Vitrolite plant at Parkersburg.

Joy Manufacturing Co., Pittsburgh, Pa., has announced the appointment of Frederick W. Thomas as director of purchases. George R. Fox, now head of purchasing, will become assistant vice-president in charge of the firm's plant expansion program.

John F. Thompson, president of **The International Nickel Co., of Canada, Ltd.,** was recently elected to

WE HAVE THE SOLUTION FOR YOUR SIZING PROBLEMS

ACTUALLY you need two solutions: (A) the proper materials required, and (B) the method of properly applying same to your warps. Our mill trained representatives and our experienced chemists supply both.

SLASHING
WEAVE - WELL
PRODUCTS

•

FINISHING
FINISH-RITE
PRODUCTS

•

SHUTTLE
GREASE - RITE
TALLOW

A North Man will be glad to work with your organization in determining just what is required. Our chemists will supply just what is needed.

Yes, you can depend on the Frank G. North team for the last word in better warp dressing. It's been proving its trustworthiness and dependability to profit-wise mill management for more than half a century.

•

Among the nation's largest manufacturers of dressings for all warp yarns.

Northol P. C. for use with any make of machine, for setting twist and conditioning yarns

FRANK G. NORTH
INCORPORATED
MANUFACTURING CHEMISTS
ATLANTA, GEORGIA · P.O. Box 123, Sta. A · Phone RAymond 2196
MARIETTA, GEORGIA · P.O. Box 92 · Phone Marietta, 1509

SUPPLIERS News
WHAT THEY ARE DOING

the additional office of chairman of the board of directors. Paul D. Merica, executive vice-president and a director, was made a member of both the executive committee and the advisory committee of the firm.

The land, buildings, and equipment of National Transit Pump and Machine Co. in Oil City, Pa., have been acquired by **Worthington Pump and Machinery Corp.**, to be utilized in furtherance of the firm's production of equipment related to the national defense program. Worthington-Gamon Meter Co., formerly a subsidiary, has been made a division of the corporation.

Lehman Bros., investment bankers and pioneers in the financing of textile industry firms, recently celebrated their hundredth anniversary. In its anniversary book was noted the fact that the firm became a founding member of the New York Cotton Exchange, a member of the first New York Petroleum Exchange, and a member of the New York Stock Exchange in 1887.

Robert C. Becherer, with the firm since 1923, has been elected vice-president of **Link-Belt Co.**

Louis J. Francisco was recently elected to succeed J. Roger White, deceased, as vice-president in charge

Mr. Francisco

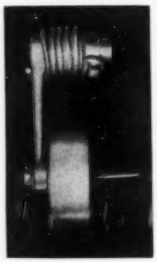
of sales and advertising for **The Formica Co.** Mr. Francisco has been with the firm since 1924.

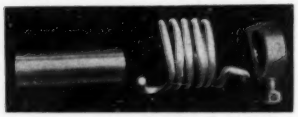
Charles F. Alexander, formerly with Cherry-Burrell Corp., has been named manager of the industrial department of the **National Safety Council.** A. M. Baltzer, assistant manager since 1946, continues in that capacity.

Barnes Textile Associates, Inc., have opened an office at 522 Fifth Ave., New York, N. Y., with David P. Canavan, formerly with Harry E. Stocker Associates, in charge. Mr. Canavan will head up the new methods and materials handling division. Barnes have also announced an expansion of their Barnes Executive Service for the textile industry, covering every type of management.

William A. Roberts, executive vice-president in charge of the tractor division, was recently elected president of **Allis-Chalmers Manufacturing Co.** At the same meeting W. C. Johnson, formerly executive vice-president in charge of the general machinery division, was named executive vice-president for the entire company; and Edmund Fitzgerald was elected a member of the board of directors. Mr. Fitzgerald is president of Northwestern Mutual Life Insurance Co. John P. McLaney and Webster C. English, mechanical engineers, have

The Westbrook Tension Pulley Spring Assembly Eliminates Weight on Spinning Frames





Only 3 Parts

LEFT: Complete Assembly of The Westbrook Tension Pulley

As much as 250 lbs. per frame eliminated where the Westbrook Tension Pulley replaces old style Weighted Pulleys, yet uniform tension maintained with an adjustable range of from 2 to 8 pound pull on tape.

This new device was made expressly for light twisting, heavy and medium spinning.

Note simplicity of the assembly . . . only 3 parts mean less cleaning. Auto value spring stock used; never loses its tension.

Bracket breakage and inconveniences eliminated by threading bracket on supporting rod.

This pulley used on either single or double application.

You will find longer bolster and tape life with a properly adjusted Westbrook Tension Pulley, as well as other advantages that provide complete satisfaction.

Call on Lynn Holloway for Any of the Following

HOMCO PRODUCTS

• PULLEY DRIVES • BALL BEARING IDLER PULLEYS
• CYLINDER BEARINGS AND JOURNALS • BALL BEARING JACK STUDS
• SEPARATORS • CHAIN DRIVES
• BALL BEARING APPLICATIONS FOR THE CARD ROOM

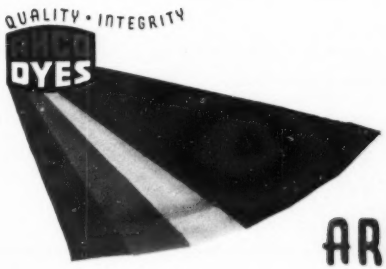
HOLLOWAY MANUFACTURING CO.

FA. 3416

110 E. TAYLOR EAST POINT, GA.

AHCOVAT DYES

In AHCOVAT DYES, as in all other products bearing the trademark AHCO, Arnold, Hoffman quality and integrity are your guide to superior performance.



✳ BRILLIANT ORANGE RK

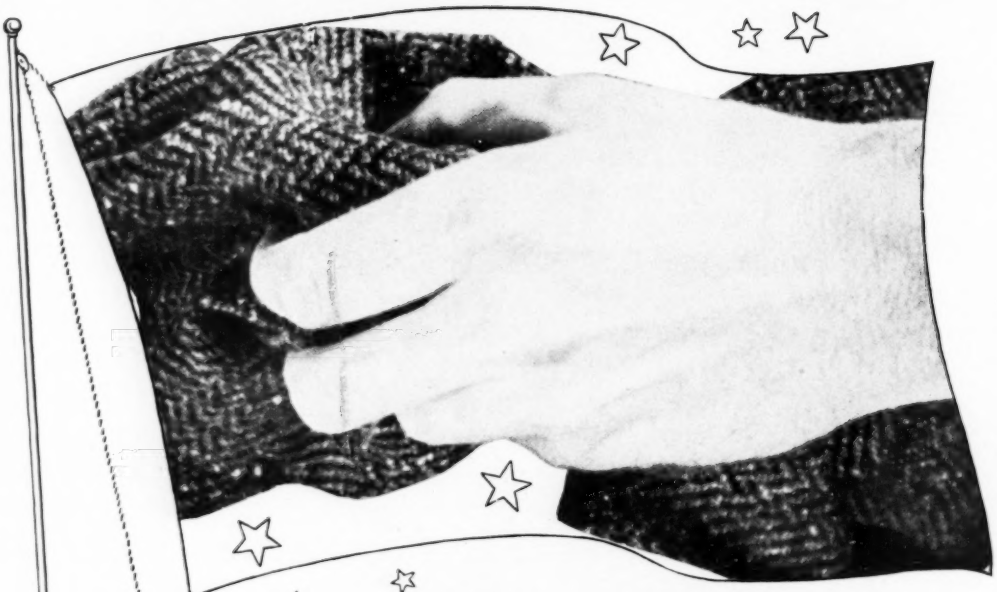
This vat dye has outstanding light fastness and brightness of shade. It is especially recommended for use on towelings, curtains, upholstery slipcovers, etc.

Ask for complete technical information and shade card.

ARNOLD, HOFFMAN PROVIDENCE RHODE ISLAND

Associated with
Imperial Chemical Industries, Ltd.
(DYESTUFFS DIVISION)
England

ARNOLD, HOFFMAN & CO., INCORPORATED • EST. 1815 • PROVIDENCE, R. I.
Offices: Charlotte, Cincinnati, New York, Philadelphia, Providence
Plants: Charlotte, N. C. Cincinnati, Ohio Dighton, Mass.



UP·GRADE
YOUR FABRICS WITH PROFINE!

One of the biggest advantages you'll find in using Profine is the *control* it gives you over a fabric's softness, body and hand.

If you want a soft, full-bodied hand for your knitted and woven fabrics, you can get it with Profine. If you want good whites that don't discolor, you'll get them with Profine. If you want good anti-curl cutting, you'll get it with Profine.

Profine is made-to-order for up-grading fabrics . . . increasing their salability. A month's trial will prove it—to *your* satisfaction.

FACTS ABOUT PROFINE

Fast dissolving flake form. Self-emulsifiable.
Stable emulsions.
Imparts softness or body to fabrics and yarns.
No effect on shade.
Inhibits static.
No tendency to form objectionable odors or discoloration.

Profine

Procter & Gamble
CINCINNATI, OHIO

MAKERS OF OLATE, PROXOL AND ORVUS PRODUCTS.

been assigned to the general machinery division office in Charlotte, N. C., and Andrew J. Beall, Jr., was assigned to the New Orleans office. Allis-Chalmers has also announced the purchase of all physical assets of Canadian Allis-Chalmers, Ltd., by a new wholly owned subsidiary of Allis-Chalmers to be known as Canadian Allis-Chalmers (1951) Ltd. M. C. Lowe has been named president.

Ambrose L. Moll, with the firm for the past 22 years, has been elected treasurer of **Atlas Mineral Products Co.**

J. Walter Barr, formerly with Allis Chalmers Manufacturing Co., has joined the **Pneumafil Corp.**, as assistant to the president. Mr. Barr is a graduate of Alabama Polytechnic Institute.

Mr. Barr

J. Herbert Babcock was recently elected a vice-president of **Hooker Electrochemical Co.** He has been with the firm since 1916, and has been director of development and research since 1949. At the same meeting, Charles H. Winkler was made assistant treasurer and Thomas F. Willers comptroller. Mr. Winkler has been with Hooker since 1936, Mr. Willers since 1941.

Theodore T. Toole, Jr., has been added to the sales staff of **Hemphill Co.**, Pawtucket, R. I. He will work out of the firm's High Point, N. C., office under the direction of James McDowell, southern sales director. Before joining Hemphill, Mr. Toole was assistant to the vice-president of Bloomingdale Brothers, New York City department store.

The entire capital stock of the Greenville (S. C.) Belting Co. was recently purchased by the **Schmidt Manufacturing Co.**, New Bedford, Mass. Expansion and complete modernization of the Greenville plant is planned, to better serve the southern textile industry.

Mason-Neilan Regulator Co. now has an office at 314 West Trade St., Charlotte 2, N. C. Malcolm D. Duncan is district manager for North and South Carolina.

Frederick L. Eckstrand recently resigned as director of sales of **Borne Scrymser Co.**, to enter private business. He will be available for consultant services, and will be located at 926 Carleton Road, Westfield, N. J.

T. M. Evans, president of Quaker Rubber Corp., a division of **H. K. Porter Co.**, recently announced a million-and-a-half dollar expansion of plant and manufacturing facilities. Approximately 70% of the expenditure has been designated for new equipment, the remainder going into new buildings.

NON-FLUID OIL
TRADE MARK REGISTERED

Checks "Cam Spatters"

Ordinary lubricants cannot endure the centrifugal throwing action of loom cams which spatter oil on warps and woven goods. Highly adhesive NON-FLUID OIL stays where applied to prevent these oil spots and smears. 7 out of 10 mills put a stop to "seconds" and save money on lubricant and application costs by using NON-FLUID OIL which outlasts oil 3 to 5 times.

We are prepared to furnish mills with skilled engineering service. Write for Bulletin T20-TI and free testing sample of A-#00000 grade NON-FLUID OIL.

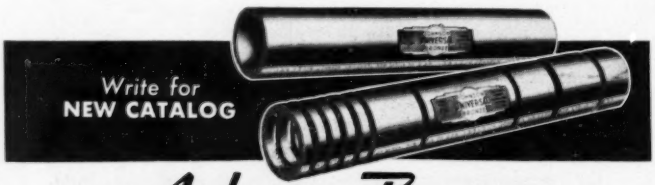
NEW YORK & NEW JERSEY LUBRICANT CO.
292 MADISON AVE., NEW YORK 17, N. Y.—WORKS: NEWARK, N. J.
Southern District Manager: Falls L. Thomason, Charlotte, N. C.
WAREHOUSES: Atlanta, Ga. — Birmingham, Ala. — Charlotte, N. C. — Chicago, Ill. — Columbus, Ga. — Detroit, Mich. — Greensboro, N. C. — Greenville, S. C. — Providence, R. I. — St. Louis, Mo.

DON'T YOU BELIEVE IT! If anyone approaches you with products they swear to be exact imitations of NON-FLUID OIL, at a lower price, don't you believe it! The basic factors in all industrial production preclude paying a little and getting a lot . . . Remember, you only get what you pay for!

NON-FLUID OIL is not the name of a general class of lubricants, but is a specific product of our manufacture. So-called grease imitations of NON-FLUID OIL often prove dangerous and costly to use.

JOHNSON BRONZE *BARS* are completely machined—outside diameter, inside diameter, and ends—and require only 1/64" cut to bring to size. You can see the savings in metal and machine work that this provides. Such a complete range of diameters is available that you may order any size you need. And, too, every bar is perfect, concentric and with no under-surface defects—entirely usable from end to end. They are cast from highest quality bearing bronze, an alloy that cuts easily, yet delivers the utmost in serviceability.

Johnson Universal Bronze is made in over 350 sizes. Cored bars are available in inside diameters from ½" to 7¾", and outside diameters from 1" to 10". The possible variations are great; for example, bars of 1" inside diameter may be furnished with outside diameters from 1½" to 4". The solid bars are made in a range of sizes from ⅝" to 8" diameters. Complete stocks are maintained by Johnson distributors from coast to coast, and by twenty-two Johnson Bronze warehouses.



Johnson Bronze
SLEEVE BEARING HEADQUARTERS
530 SOUTH MILL STREET • NEW CASTLE, PA.

What the TEXTILE MILLS are doing

An addition to the plant of **Hollywood Piece Dye Works, Inc.,** Passaic, N. J., now under construction, will provide 10,000 to 12,000 sq ft of space for preparing goods and for warehouse facilities.

The Kingsley mill of **Deering, Milliken Company,** located at Thompson, Ga., is now in production, with 650 Model XD looms placed in operation for the weaving of rayon suitings. An 86,000 sq ft addition to the company's McCormick, S. C., plant is now under construction, and the Drayton division has started a five-way expansion and modernization program reported to cost in excess of half a million dollars.

The complete equipment of a Butler, Ga., mill has been purchased by the **Lavonia (Ga.) Hosiery Mill.** Included in the new equipment are dye pots and extractors, which will enable the mill to purchase yarn manufactured in Lavonia and make the finished product.

Manikin Hosiery Co., Rockford, Ill., has purchased new machinery for the production of 54 and 60 gauge nylon hosiery, in addition to the 45 and 51 gauge styles currently produced.

A mill at Mullins, S. C., is under construction which, when completed, will be leased to **Mullins Textile Mills, Inc.,** for manufacture of knitted goods. It is expected that about 250 people will be employed.

Victor Monaghan Co. has under way a modernization program at its Greenville, S. C., plant which will include construction of a truck dock, freight elevator towers, and warehouse repairs.

Herbert Lawton and Co., New York, N. Y., which operate the **Southern Worsted Co.,** will concentrate their operations in Greenville, S. C., according to reports. Production of the **Premier Worsted Mills** at Raleigh, N. C., will be discontinued.

Construction of a $40,000 addition to the **Spindale (N. C.) Mills Co.** is now under way, to be used for ex-

pansion of the present card room. Also, air conditioning equipment is being installed in the spinning room, the carding and weaving departments having been air conditioned some time ago.

Tallassee (Ala.) Mills have begun the sale of their company houses.

Quarters formerly occupied by the Julius Kayser dye plant in Brooklyn, N. Y., have been taken over by **Tex-Lane Dyeing Co., Inc.,** and new equipment has been installed for the processing of viscose and acetate rayons, cottons, and mixtures for men's and women's wear. Principals of the firm are Phil Martell, Sam Reiss, and Sol Fishman.

Construction is under way on a $1,200,000 addition to the **Textron Southern** rayon weaving plant at Williamston, S. C. The additional space will expand loom capacity more than 50%.

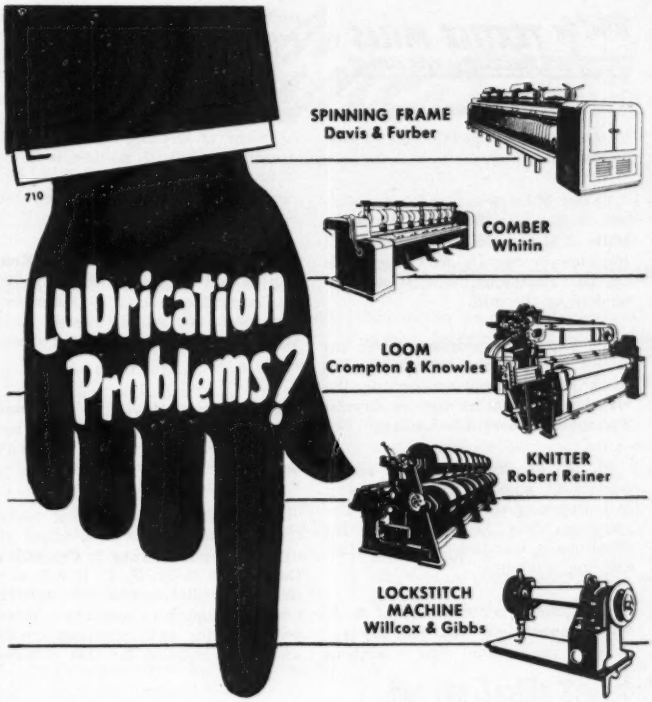
Contract has been awarded by the Dunean Mills division of **J. P. Stevens & Co.,** Greenville, S. C., for a 1,600 sq ft addition to its cotton classing room.

Bates Manufacturing Co. celebrated its hundredth anniversary in 1950 by producing the largest yardage volume in its history and by increasing its earnings 51.67%, according to H. D. Ruhm, Jr., president.

Belding Corticelli has announced that its new plant at Hendersonville, N. C., now under construction, will be the first thread manufacturing plant employing electronic control at all focal processing points. Chances for human error will be virtually eliminated by the application of this electronic system, according to the company.

Plaid Mills Plant, **Burlington Mills Corp.,** has received a second accident prevention flag award from Liberty Mutual Insurance Co. for compiling two million man hours without a lost time accident.

A major expansion program has been launched at **Burlington Mills Corp.'s** finishing plant at Altavista, Va., which includes 125,000 sq ft of warehouse space plus a 15,000 sq ft addition to the warehouse. The firm's rayon mill at Oxford, N. C., will increase present capacity by 50% through construction of an addition



not on these machines!

...they're all BIJUR equipped

Each maker of these machines had your best interest in mind when he built-in a Bijur lubricating system. Human carelessness and forgetfulness are eliminated by machines having built-in Bijur lubricating systems. These machines will never be shut down because they lack continous, proper lubrication. Make certain the machine you buy is furnished with a Bijur lubricating system.

Write for Bulletin 6A

BIJUR

LUBRICATING CORPORATION

Rochelle Park • New Jersey

What the TEXTILE MILLS are doing

to the plant and installation of new equipment.

Carter Mills Nos. 1 and 2, Lincolnton, N. C., have been sold to **Globe Mills** of Mount Holly, N. C., and will continue to operate as Globe Mills Co. D. C. Chandler will be superintendent of the mill.

An expansion program which includes a three-story extension to the main mill and an addition to the weave shed is under way by **Crystal Springs Bleachery,** Chickamauga, Ga.

M. K. M. Hosiery Mills, which previously engaged only in dyeing and finishing of full-fashioned hosiery in their Manchester, N. H., plant, have installed a dozen tricot knitting machines.

The quarter century club of **A. & M. Karagheusian, Inc.,** recently received twenty-one new members, each employee having completed twenty-five years of service in 1950. 10% of all Karagheusian employees have now been with the firm 25 years or more. News has also been received that Karagheusian has received the Academy of Designing's Gold Medal Award for 1951 for its new textured Wilson carpet, "Cloisonne," a featured line in the firm's spring collection.

The central laboratory of **The Kendall Co.** has been moved from Boston to Cambridge, Mass., 76 Massachusetts Ave., and will be known hereafter as the Theodore Clark Laboratory.

Bachmann Uxbridge Worsted Corp.'s plant in Talladega, Ala., has begun weaving of fabrics for men's wear.

A subsidiary for spinning yarns from synthetic fibers is being set up by the **American Yarn & Processing Co.,** Mount Holly, N. C. It will also serve as a pilot facility for research and development projects. About 3000 spindles and other equipment are being installed for this purpose in the former Whitehall Knitting Mills building.

Textron, Inc., has been licensed to make and use in the United States and Puerto Rico the tricot pre-setting machine developed by American Viscose Corp.'s textile research department. Previously Avisco licensed Holly Knit, Inc., to make and use the machine, and the Van Vlaanderen Machinery Co. to manufacture it. All of the licenses are non-exclusive.

The **West Boylston Manufacturing Co.,** Montgomery, Ala., has completed a modernization program which, according to the owners, makes the mill one of the most modern in the country.

The **Julius Kayser Co.** mill at Portland, Pa., has been purchased by John Miller, assistant superintendent of Kayser operations at Bangor, Pa.

Contract has been awarded by **American Velvet Co.,** Stonington, Conn., for a one-story addition to the mill, for expansion in output.

The mill of Hartford Spinning, Inc., Unionville, Conn., has been leased and its machinery and facilities purchased by **Mohawk Carpet Mills, Inc.** The property will be operated as a branch mill under the name **Unionville Spinning Mills, Inc.,** and will be used primarily for production of yarns for blanket manufacture for the armed forces.

A one-story addition is being planned by **Mason Silk Co.,** Winsted, Conn.

Columbus (Ga.) Manufacturing Co. is building a one-story addition to the plant, to be used for expansion in the weaving department.

Extensive improvements are being made at the **Lavonia (Ga.) Manufacturing Co.** mill, to provide for increased operations.

Contract has been let by **Millart Corp.** for a one-story addition to its knitting mill at Pennsauken, N. J.

Jules Witten and R. D. Moore are principal incorporators of the newly chartered **D. & M. Knitting Mills, Inc.,** Gastonia, N. C.

Construction is under way for a one-story addition to the Osceola mill

Are You Getting a Fair Day's Work for a Fair Day's Pay?

As Production Engineers we specialize in the utilization of

LABOR — EQUIPMENT — MATERIAL

Our list of clients reads like the Blue Book of American Manufacture, and in our files are many expressions as to our service and results accomplished, like the following:

"They increased the effectiveness of our plant very much and we are well pleased with the results."

AN IMPORTANT MANUFACTURER OF COTTON YARNS

Write for a free copy of "Labor and Management Benefit by Industrial Engineering Principles."

AMERICAN ASSOCIATED CONSULTANTS, Inc.

D. S. KEOGH, President
J. J. SKELLY, Vice Pres. and Gen. Mgr.

H. B. CRAFT, Vice President in Charge of Southern Operations

250 PARK AVENUE
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GRANT BUILDING
PITTSBURGH, PA.

30 CAMDEN ROAD
ATLANTA, GA.

CALCO dyelines

Advertisement No. 20 of a series

PREPARED BY AMERICAN Cyanamid COMPANY CALCO CHEMICAL DIVISION
DYESTUFF DEPARTMENT, Bound Brook, New Jersey
New York · Chicago · Boston · Philadelphia · Charlotte · Providence

Calco®

Fast Printing Black for Acetate and Acetate Mixtures

Calcophenyl* Black Base is a desirable product for printing fast blacks on acetate and acetate mixed fabrics. It produces a rich bloomy black on ace-

tate, viscose, cotton, or fabrics consisting of mixtures of these fibers.

Calcophenyl Black Base requires oxidation to produce the proper shade, and this is accomplished by incorporating the oxidizing chemicals in the printing paste along with the dye, so that the oxidation is accomplished in the aging. Since the oxidation is not too difficult to accomplish and can be done with organic acids instead of mineral acids, the danger of tendering is eliminated. Inasmuch as an extremely low pH is not required, this product is readily adaptable to printing on naphthol prepared fabrics, and for delicate fabrics such as viscose sheers.

The principal advantages of printing blacks with Calcophenyl Black Base can be summarized as follows:

1. Full, bloomy black on acetate, viscose, cotton, or mixtures of these fibers.
2. Consistent printing properties on naphthol prepared fabrics.
3. No tendering action on fabrics.
4. A rich, ungreenable black is produced.
5. Excellent running properties with no tendency to cause etching of the doctor blade.

Ask your Calco representative for a sample and information on Calcophenyl Black Base.

*Trade-mark

A New Stabilized Azoic Violet

Calconyl* Violet B Powder, recently announced, produces a blue-shade violet of excellent brightness when printed on cellulosic fibers. This product is a desirable addition to an already extensive line of Calconyl Powders and Solutions. It can be used with assurance for either roller printing or screen printing on cotton or viscose fabrics.

Economy, clearness of shade and good working properties are some of the salient properties which recommend Calconyl Violet B Powder.

While the fastness properties of Calconyl Violet B Powder are not as good as the average vat or soluble vat print, they are good enough to make it very desirable for a wide range of fabrics. Principal fastness ratings are: Light . . . 3; Cotton Wash Test No. 3 . . . 4; Dry Crocking . . . 5; Wet Crocking . . . 3; Hot Pressing . . . 5; Acid or Alkaline Perspiration . . . 4.

Most textile printers will find this a useful dye to have in their drug rooms. Samples and information can be obtained from your Calco representative.

*Trade-mark

Calco Naphthosol Solutions

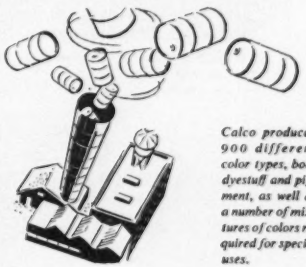
Solutions of the principal naphthols have recently become popular because of their labor-saving advantages. The former process required the use of solvents, alkali and time in order to prepare them for use, while the solution forms are readily usable without these preliminaries.

Calco Naphthosol® ASF and Calco Naphthosol SWF are available in the solution form. They represent the two most widely used naphthols and are suitable for all types of application wherever the powder types had formerly been used.

For the Textile Bookshelf

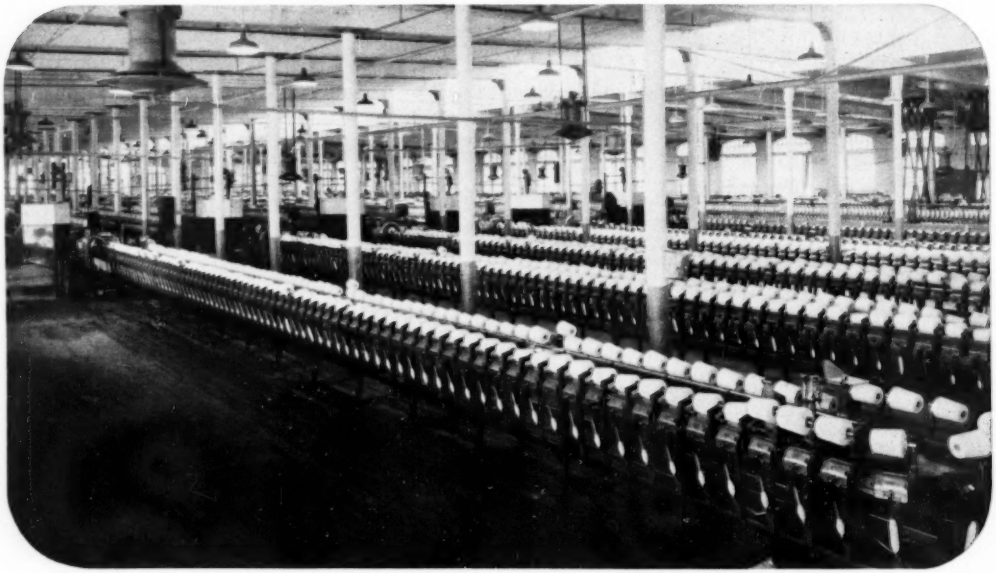
Light-Fastness Ratings of Vat Dyes on Cotton (Calco Technical Bulletin #813) by M. Babey, S. J. Luscian and R. J. G. Schofield. Provides the dyer with more complete and more exact information about light-fastness of vat colors on cotton.

Reprint of Paper by 1950 Olney Medalist:—A Review of Textile Coloring and Finishing Research by G. L. Royer (Calco Technical Bulletin #818). Covers the important scientific contributions in the dyeing of wool, acetate rayon, nylon and viscose rayon and the printing and finishing of textiles. Points up the need for increasing cooperation between the dyer and the scientist.



Calco produces 900 different color types, both dyestuff and pigment, as well as a number of mixtures of colors required for special uses.

Winding a better weaving loom bobbin that improves fabric quality, Abbott Automatic Quillers offer the lowest winding cost in the automatic winding field. One operator can maintain a steady production load of from 1000 to 2000 wound bobbins per hour.



With the Abbott Automatic Cone or Cheese Winder, one operator, from a seated position, sets full bobbins in a rotating magazine and doffs full packages, maintaining a steady production of from 800 to 1000 bobbins wound onto packages per hour. It's the low-cost installation for efficient twisting, warping, or sale yarn package winding.

ABBOTT MACHINE CO., INC.
WILTON, NEW HAMPSHIRE
SOUTHERN OFFICE, GREENVILLE, S. C.

What the TEXTILE MILLS are doing

of **Textiles, Inc.,** Gastonia, N. C., to be used for expansion in the spinning department.

Southern Webbing Mills, Inc., Greensboro, N. C., has planned extensions and improvements in the mill for increased production.

A one-story addition, to cost about $15,000, is planned by **Southland Hosiery Mills, Inc.,** Greensboro, N. C.

Edward Patterson, Hendersonville, N. C., is one of the incorporators of **Gold-Ray Manufacturers, Inc.,** which has been organized to operate a knitting mill.

C. & D. Hosiery Mills, Hickory, N. C., have been purchased by D. C. Whisenant and C. R. Yount, who have been operating the plant under lease.

Robbins Textiles, Inc., High Point, N. C., recently chartered, will manufacture textile products, exact character not announced. C. C. Robbins, Jr., and Arthur Fidler are principal incorporators.

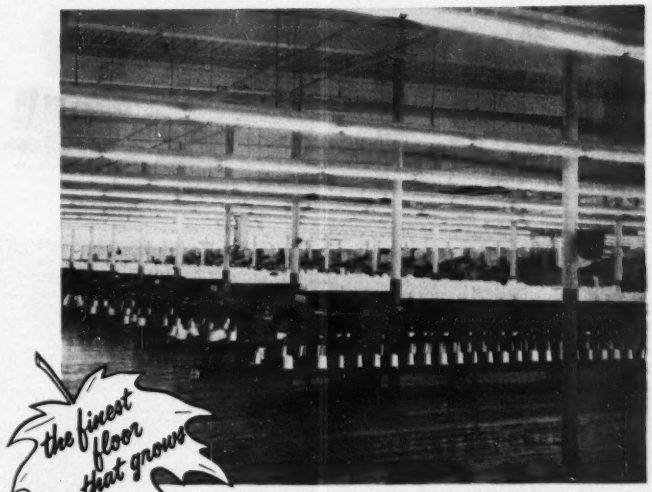
Fiber Products, Inc., Mount Holly, N. C., will operate a mill for manufacture of synthetic fabrics. A. W. Bell and R. F. Jessen are principal incorporators.

The Hampton Print Works plant of **The Aspinook Corp.,** has been purchased by D. B. Fuller & Co., Inc. **Hampton Mills, Inc.,** wholly owned subsidiary of Fuller, has taken title to the printing, dyeing, and bleaching facilities.

Philip M. Hak, 210 Main St., Pawtucket, R. I., is attorney and representative for the recently organized **Swan Narrow Fabrics Corp.,** which will manufacture braids and other narrow fabrics.

Contract has been let by **Berkshire Knitting Mills** for a new mill at Andrews, S. C. The cost is reported to be about $3,000,000, with equipment.

Newnan (Ga.) Fibers Co., Inc., recently organized, has purchased the local plant of Southern Cotton Oil Co., and will equip and occupy it for processing of synthetic, cotton, and wool wastes. W. B. Hill, president,



Floor of Northern Hard Maple in a New England mill. Photo by courtesy of Abbott Machine Co., Inc.

the finest floor that grows

NORTHERN HARD MAPLE

has ALWAYS been-- will ALWAYS be MODERN!

Your mill floors of cheerful, long-lasting, *resilient* Northern Hard Maple afford the ideal setting for today's ultra-modern machine equipment. For the special needs of textile manufacture were the reasons that led you unerringly to choose "the finest floor that grows" when you planned your mill. Maple meets those needs today as always. Better than ever, in fact, for rigid MFMA grading and manufacturing standards assure you of Northern Hard Maple flooring true to dimension, to species and to character. Specify MFMA Northern Hard Maple. Its genial *resilience* means comfort underfoot and utmost resistance to dents and scars. Its dense texture and stability minimize crevices for dirt to lodge in. Easy brush cleaning, simple maintenance routine, are all it needs. In strips, blocks, patterned designs. Ask your architect or engineer.

See Sweet's
Arch. 13i/MA
for specification data.

MAPLE FLOORING MANUFACTURERS ASSOCIATION
Suite 591, Pure Oil Bldg., 35 East Wacker Drive
CHICAGO 1, ILLINOIS

FLOOR WITH NORTHERN HARD MAPLE
BEECH AND BIRCH

Do it Mechanically . . NOW!

Close-up of "overpass" (in long Logan Belt Conveyor) to allow passage by personnel from one side of room to the other. Products are moving from inspection to packing and shipping.

"Manpower will be too scarce in the months ahead to waste it on jobs that can be done mechanically. Moving of materials is a type of work that can be almost completely mechanized. It must be mechanized NOW."

So speaks one of the nation's industrial authorities.

In line with the above, Logan Conveyors (a) facilitate handling of incoming raw materials and outgoing finished cloth (b) deliver work in process through spinning and weaving (c) keep textile equipment operating at capacity.

Two generations of conveyor experience are back of every Logan installation. Write for literature, or for an engineer to call.

75th ANNIVERSARY 1876-1951

Logan Conveyors

LOGAN CO., 206 CABEL ST. • LOUISVILLE 6, KY.

What the TEXTILE MILLS are doing

formerly was secretary and treasurer of Newnan Cotton Mills.

National Felt Co., Easthampton, Mass., is planning a new addition to its plant.

A cotton mill near Newberry, S. C., formerly known as Wein Mills, has been leased by Harold Aronson, Adel, Ga., for manufacture of tobacco cloth. 31 additional looms and other facilities will be installed.

Contract has been let by **Joseph Bancroft & Sons Co.,** for extensions and improvements to its mill in Wilmington, Del.

Goodall-Sanford, Inc., Sanford, Me., is remodeling its Minerva Mill, previously used for warehouse service, for expansion in the weaving division. New looms and other equipment will be installed, primarily for production of Palm Beach cloth.

Morris Lefkowitz, 32 Round St., New Bedford, Mass., is treasurer and representative of **Acushnet Carpet Mills, Inc.,** recently organized for manufacture of rugs and carpets.

Textile fabrics, exact character not announced, will be manufactured by the recently chartered **MacDonal, Inc.,** Gastonia, N. C. L. B. Hollowell is principal incorporator.

The Puritan Weaving Mill, of **Burlington Mills Corp.,** located at Fayetteville, N. C., will henceforth be known as the Fayetteville Plant.

Spencer Hosiery Mills, Inc., Newton, N. C., was recently chartered for operation of a knitting mill. Buford Spencer and Albert Hutchens are principal incorporators.

Contract has been let by **Roanoke Mills Co.,** Roanoke Rapids, N. C., for extensions and improvements in the mill's water filtration plant.

Salisbury (N. C.) Cotton Mills, Inc., has a one-story addition to the mill under construction.

Sanford (N. C.) Hosiery Mills, Inc., is installing additional knitting machinery and auxiliary equipment to

increase its capacity by about 600 dozen pairs of hose per week. The program is reported to cost nearly $100,000.

A one-story unit and a one-story extension to the present building are planned by **Stonecutter Mills Corp.**, Spindale, N. C. Additional equipment will be provided for increased output.

A one-story building has been acquired by **La-Ru Hosiery Co.**, Bristol, Pa., recently organized, to be equipped for manufacture of women's full-fashioned hosiery. The new company is headed by William Ruland and Stephen Laptonak.

Contract has been let by **Robert Bruce Knitwear Co.**, Germantown, Pa., for a one-story addition to its plant.

Two one-story additions to the **Bristol Lace Works, Inc.**, plant on Roma St., Bristol, R. I., will be constructed for increased capacity.

James F. Armstrong, 84 Belvedere Blvd., North Providence, R. I., is principal incorporator and representative for **American Fabrics, Inc.**, which has been chartered for the manufacture of rayon fabrics.

Modern Braid Co., Providence, R. I., recently chartered, will manufacture braids and other narrow fabrics. Henry Angelo, 71 Stansbury St., Providence, is principal incorporator and representative.

Springs Cotton Mills, Lancaster, S. C., have announced plans for expansion in their branch mill at Kershaw, S. C., used for production of broadcloths.

A new mill, consisting of a main one-story building and several smaller structures, for production of women's full-fashioned hosiery, is planned at Saluda, S. C. J. T. Edwards, president of Palmetto Full-Fashioned Hosiery Mill, Inc., is head of the project.

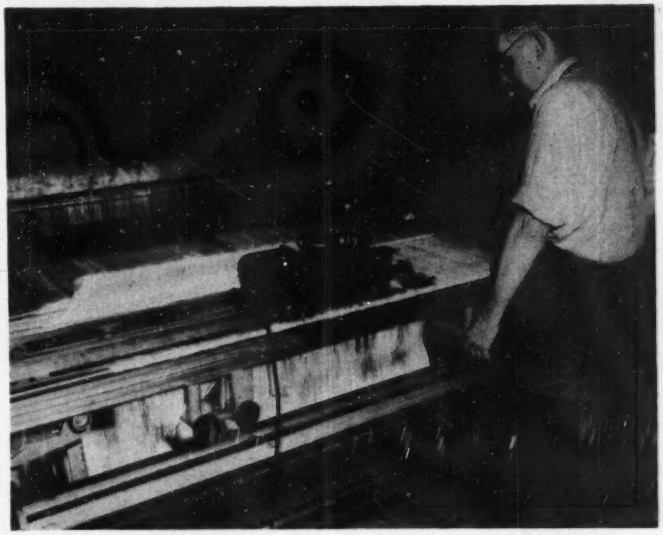
Henfine Mills, New York, N. Y., recently purchased a portion of the old Camp Butner property near Durham, N. C., and have established a 320-machine hosiery plant. It is reported that the firm has also obtained an option on ten additional buildings at the camp and plans to open a branch soon. This latest ex-

IT'S NEW

IT'S SPEEDY

IT'S ECONOMICAL

TITAN *automatic warp tying machine*



Here are some typical results in representative American mills:

Acetate warp 9055 ends, preparation 22 minutes, tying-in 24.5 minutes, total time 46.5 minutes.

Rayon warp 7050 ends, preparation 20 minutes, tying-in 19 minutes, total time 39 minutes.

Actual production for eight hours, using one tying stand only:

Acetate or viscose (75-120 den.) 10 to 12 warps of 4500 ends.

Cotton 20/1s 12 warps, 3000 to 4000 ends.

Worsted 24/2s 10 warps, 2000 to 3000 ends.

Woolen 8s 8 warps, 2000 to 3000 ends.

Can your production match these? If not, write for free, illustrated literature.

EDDA INTERNATIONAL CORP.

468 FOURTH AVE. NEW YORK 16, N. Y.

U. S. General Sales Agents

With labor costs as they are, the fast, *mechanized* TENNANT System can save you more *today* than ever—besides eliminating scrubbing. Here are 5 reasons why TENNANT "dry cleaned" floors are cleaner . . . brighter . . . safer—yet *cost you less:*

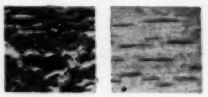
1 **Requires less manhours** for floor maintenance because floors can be cleaned *faster* . . . stay clean longer. Unlike rough, dirt-catching scrubbed floors, Tennant-cleaned floors are smooth, hard, dirt-resistant . . . clean up like magic! Saves time and expense.

2 **Makes floors easy to clean.** Fast, low-cost "dry cleaning" with a Tennant Machine keeps floors bright, durable. Only daily care is dry mop sweeping.

3 **Cuts accident costs.** Helps keep floors DRY and safe. Aids morale.

4 **Makes floors last longer** by protecting against dampness, decay and wear.

5 **Helps prevent losses** of yarn and cloth from splinter-snags and dirt.



HERE'S WHAT HAPPENS when you stop scrubbing your floors and switch to economical Tennant "dry cleaning."

Microphoto at left shows typical surface of a scrubbed floor. Note how water has broken down top wood structure and caused rough, jagged, dirt-catching splinters. This makes floor hard to clean, and it breaks down rapidly under heavy traffic.

In contrast, microphoto of a Tennant "dry cleaned" floor (right) shows how the bright, smooth, protectively sealed floor resists dirt and wear . . . and is easily cleaned with minimum manpower.

Write Today! Learn how mechanized "dry cleaning" can save you money. Ask for new bulletin "HOW TO GET BETTER RESULTS IN TEXTILE FLOOR MAINTENANCE."

G. H. TENNANT CO.
2524 North Second Street
Minneapolis 11, Minnesota

The way to finer floors
TENNANT
Floor Maintenance System

ESTABLISHED 1870

OFFICES IN PRINCIPAL CITIES

What the TEXTILE MILLS are doing

pansion may be followed by the purchase of additional acres for housing employees.

Pacific Mills have closed an option on a five-hundred-acre farm near Clover, Va., and it is reported that a new production plant may be built there.

The **Virginia Manufacturing Co.,** Whitesburg, Ga., has subleased the Scripto, Inc., plant at Carrollton, Ga., for future expansion of its braiding operations. All yarn spinning is to remain at the Whitesburg plant, according to Gibson LaFoy, vice-president.

Dy-Co Mills, Englewood, N. J., have under construction a plant at Norwood, N. J., which, when completed, will have a total capacity of about five million yards of fabric annually.

Mohawk Carpet Mills, Amsterdam, N. Y., have secured control of Delaware Rayon Co., New Castle, Del., according to a recent report.

The **Airedale Worsted** and **Lippitt Worsted Mills** in the Axelrod group, Woonsocket, R. I., will henceforth be known as the worsted division of **Crown Manufacturing Co.**

Watts Mills, Laurens, S. C., a division of J. P. Stevens & Co., Inc., are installing additional machinery for twisting of spun rayon and cotton yarns.

Reeves Bros., Inc., has plans for construction of a $2,000,000 finishing plant near Bishopville, S. C., according to a recent report.

It is reported that **General Textiles Co.,** Scranton, Pa., has plans under way for an expansion program at its twin Simpson plants which will double the present working forces.

William Klopman & Sons., Inc., has announced plans for establishment of a mill to weave flat rayon goods at Siler City, N. C.

Quitman (Ga.) Hosiery Mills have announced the installation of 18 new machines as part of their expansion program.

Joseph Chadwick, 10 Eddington St., Pawtucket, R. I., is principal incorporator of the recently organized

Chadwick Yarn Co., Inc. Rayon yarns will be manufactured.

Springs Cotton Mills have announced that equipment will be installed at the Eureka plant, Chester, S. C., to convert all present roving frames to single-process roving.

J. P. Stevens & Co., Inc., New York, N. Y., have formed a new division under the name of Stevens Manufacturing Research, to consolidate their pilot plant, machinery, and research departments.

Graniteville (S. C.) Co. is making extensions in the boiler plant at the mill, with installation of a new high-pressure boiler unit.

Bonham (Tex.) Cotton Mills, Inc., has arranged for an increase in capital from $400,000 to $600,000, for expansion purposes.

A one-story addition to the Galax, Va., mill is under construction by **Burlington Mills Corp.** Also, alterations and improvements are being made in the present mill.

Cone Mills Corp. has announced a continuation of its modernization program in the company mill village area. It is expected that between $350,000 and $400,000 will be spent during the current year.

Atlantic Wool Combing Co., Providence, R. I., a new firm manufacturing French worsted top, has purchased a portion of the former **Manville Mill** from the Crescent Corp., according to recent reports. Theodore Birnbaum is president of the new organization.

J. A. Cooper, president of **Henderson** and **Harriet Mills,** Henderson, N. C., has announced an expansion program at the two mills involving approximately two million dollars.

Deering, Milliken Co. has under construction a $2,500,000 weaving mill near Columbus, N. C. The new structure will be known as Hatch Mill.

John L. Hutcheson, Jr., and Lewis Hutcheson, president and vice-president, respectively, of Peerless Woolen Mills, have purchased all machinery of the cloth manufacturing division of **Hardwick Woolen Mills, Inc.,** Cleveland, Tenn., and a new corporation is being formed to operate it. Frank L. Hardwick will continue to operate Hardwick's men's and boys' suit manufacturing department, but will buy his fabrics from other sources, according to reports.

Designed to handle loads of 500, 1000, or 2000 lbs., the Shepard Niles Lift-About Jr. electric hoist actually exceeds, in performance, that which customarily is expected from these lighter service hoists. And requires less maintenance in doing so.

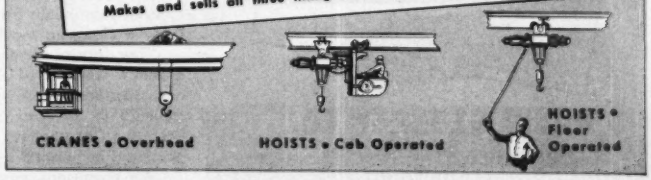
Two factors are responsible for such outstanding performance: one is a sound engineering background that comes from years of specialized experience. This is apparent in the design and construction of the hoist itself. The other is the Shepard Niles policy of making certain that the hoist you buy is the *right* hoist for *your* service. It is a policy that protects against buying a hoist that is too light for severe service. By the same token, it prevents investing more than necessary when lighter service *is* indicated.

If you would like help with your handling problems, write us. A Shepard Niles specialist will be glad to place our years' of material handling experience at your service.

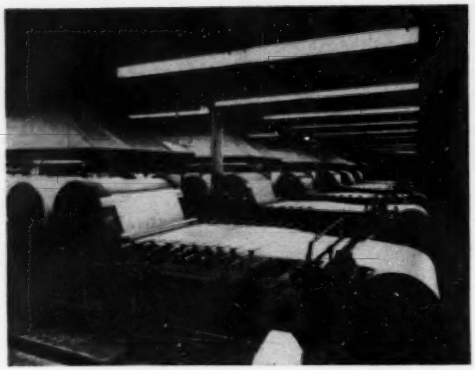
Shepard Niles

CRANE & HOIST CORPORATION

Makes and sells all three lifting tools for airborne shop loads



465 SCHUYLER AVENUE • MONTOUR FALLS, N. Y.



Investment by

ROBBINS MILLS-

- 1935
- 1939
- 1949
- 1951

in JOHNSON WARP SIZERS

has been steady since 1935

Robbins Mills installed their first Johnson sizer in 1935 when the company was called Pinehurst Silks and the town, later called Robbins, was known as Hemp, North Carolina.

In 1939 the first of the six Johnson sizers shown in the picture was installed in Robbins Mills plant at Red Springs, North Carolina.

In 1948, at their Aberdeen, North Carolina, plant a further Johnson sizer installation was made, and Johnson sizers are being installed in the new Robbins plant at Raeford, North Carolina.

Only Johnson Sizers are used in these Robbins plants—good evidence of trouble-free service rendered to a concern whose standards are high and whose requirements are exacting.

We are always glad to answer questions about our sizers.

Charles B. Johnson

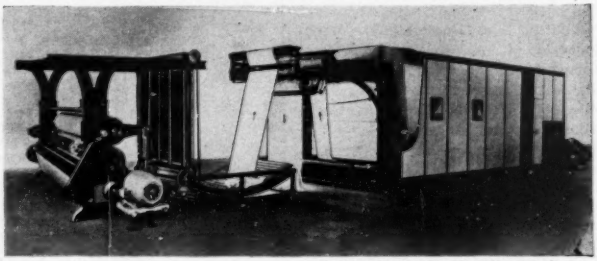
PATERSON, NEW JERSEY

Representatives:

New England and Canada: J. S. Fallow & Co., New Bedford, Mass.

Southern Representative: T. E. Lucas Associates, Inc., Charlotte 1, N. C.

Gessner Versamatic Semi-Decating Machine



Gessner Continuous Shrinking Outfit

Customers appreciate thorough shrinking, improved handle and finish

Compliments by customers for goods thoroughly shrunk and with improved handle and finish, are a familiar story to American London Shrinkers Corporation, which has treated more than 5,000,000 yards of fabric on its new Gessner Continuous Shrinking Outfit and then refinished on Gessner Decating Machines.

"The fabrics we shrink range in weight from 8 to 28 ounces — worsteds of all types, gabardines, blends of rayon and worsted and of wool and worsted — with production from 25 to 35 yards per minute. We use this Shrinking Drier for Cravenetting and have been able to do a very good job as verified by a number of Cravenette Co. tests.

We encourage you to utilize our name in conjunction with the promotion of your equipment."

DAVID GESSNER CO.

Worcester, Massachusetts

IMPROVED CLOTH SHRINKING MACHINERY

Canadian Representative: W. J. Westaway, Montreal, Quebec, Hamilton, Ont.

Personal NOTES ABOUT MEN YOU KNOW

Albert T. Spaulding, treasurer and agent of the North Berwick (Me.) Co. for 22 years, has been elected president of the mill.

M. T. Stevens & Sons Co. has announced the appointment of **Richard Clarenbach** as head of the production engineering department for the firm's New England division. Mr. Clarenbach has been with Stevens for 27 years, and for some time has been superintendent of the Franklin (N. H.) Mills.

Nelson Barlow, formerly superintendent of Apponaug Co.'s rayon division, is now works manager of Verney Corp.'s dyeing and finishing division in Petersboro, N. H.

Formerly vice-president and general sales manager of the Overseas Sales Corp., **William W. Shoaf** is now vice-president of Stowe Mills, Inc., and Pharr Worsted Mills, Inc. His activities will be chiefly in connection with sales of yarns and with the executive management.

Charles S. Fowler, formerly with Dan River Mills, Inc., has joined United States Rubber Co. as merchandise coordinator of the company's textile division.

Julien B. Cumming, who has been in charge of the Schoolfield Division of Dan River Mills, Inc., was recently appointed assistant to the general manager of Dominion Textile Co., Ltd., with headquarters in Montreal.

Charles H. McGill, formerly with Monroe (Ga.) Cotton Mills, has become connected with Harden Manufacturing Co., Rock Hill, S. C., as assistant superintendent.

Newnan (Ga.) Cotton Mills, Inc., has announced the recent election of **Karl B. Nixon** as president, **W. C. Caldwell** as secretary, and **J. T. Haynes** as treasurer of the company.

Russell L. Lawson, formerly with Sears, Roebuck & Co., has joined Utica (N. Y.) Knitting Co. as executive vice-president. **Fred A. Christ** has been made general superintendent, succeeding Fred H. Grosse, retired.

J. Clifford Miller, Jr., has become a member of the board of directors of P. H. Hanes Knitting Co., replacing John H. Schoolfield, deceased.

R. Arthur Spaugh, Jr., has succeeded Agnew H. Bahnson, retired, as president of Washington Mills, Winston-Salem, N. C. Mr. Spaugh has been vice-president and director of both Washington Mills and Arista Mills. **Charles H. Reid,** secretary, and **E. F. Tullock,** treasurer, have been made vice-presidents in addition to their present offices. **S. R. Bason,** auditor,

R & M MOYNO® PROGRESSING-CAVITY PUMP

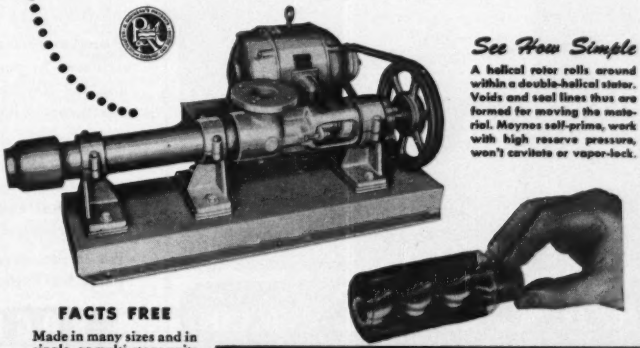
here's

THE PUMP FOR SIZING!

Moynos have changed the "textile mill" pumping picture. They deliver positive pressure in uniform flow—resist chemicals, abrasives—keep going in the tough spots where *other* pumps have failed.

MOYNOS ARE MONEY-SAVERS

On sizing, caustic solutions, tinting liquids, viscose and cellulose acetate—on *every* textile mill use—these amazing pumps without pistons or valves save time, cut costs, stand up. If *you* are having pumping troubles, call in your Moyno Man.



See How Simple

A helical rotor rolls around within a double-helical stator. Voids and seal lines thus are formed for moving the material. Moynos self-prime, work with high reserve pressure, won't cavitate or vapor-lock.

FACTS FREE

Made in many sizes and in single- or multi-stage units for direct, belt, or variable-speed drive. Get the whole Moyno story: specifications, dimensions, capacities, etc. Ask for free Bulletin No. T-30-1.

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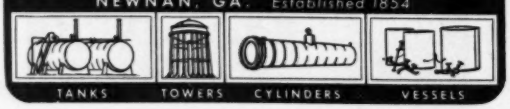
MOTORS · HOISTS · CRANES · FANS · FOUNDED 1878

96 YEARS EXPERIENCE IN TANK DESIGN

FOR almost a century Cole elevated tanks have provided a dependable water supply for mills and communities. Cole quality is assured by careful, experienced designing and watchful supervision from blueprints to finished tank. Send us your inquiries for tanks from 5,000 to 2,000,000 gallons — stating capacity, height to bottom, and location. *Write for latest Cole catalog — "Tank Talk."*

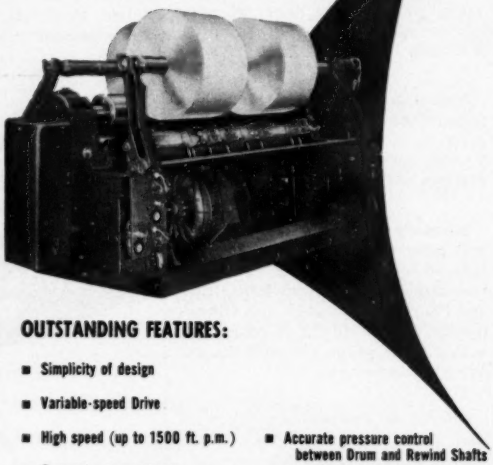
R. D. COLE MFG. CO.
NEWNAN, GA. Established 1854



HERE IT IS!

the new B&S

duplex REWINDER



OUTSTANDING FEATURES:

- Simplicity of design
- Variable-speed Drive
- High speed (up to 1500 ft. p.m.)
- Compact—saves space
- Vibrationless
- Hydraulically driven differential Rewind Shafts
- Air-Operated Slitters for strips as narrow as ½ inch
- Accurate pressure control between Drum and Rewind Shafts
- All hydraulic and air Piping enclosed in Frame
- All Controls easily accessible
- Ease of operation and maintenance
- Efficient and economical

The new B & S #15 Duplex Rewinder is powered by a Louis Allis Eddy Current Type Variable-speed Drive. A variable volume pump driven by an A. C. motor supplies power to the rewind shafts, and the winder is powered by the Eddy Clutch. By placing the entire drive beneath the machine, B & S designers have saved valuable floor space.

Accurate pressure control and precision winding are achieved by pneumatic cylinders for raising and lowering the rewind arms. For full center winding rewind shafts can be locked in "out" position.

To eliminate all possible vibration, the B & S Duplex Rewinder is mounted on heavy cast-iron bedplate. Fully enclosed piping and easily accessible controls assure smoothness and efficiency in operation, as well as ease and economy in upkeep.

For further details write to The Bagley & Sewall Company, 500 Fifth Avenue, New York 18, N. Y.

BAGLEY & SEWALL
WATERTOWN, NEW YORK

designers and builders of QUALITY MACHINERY SINCE 1853

500 FIFTH AVE., NEW YORK 18, N. Y.

was advanced to assistant treasurer.

The Textile Bag Manufacturers Association has announced the election of **Lawrence Sprosty** as president, succeeding Homer Howes of Bemis Bros. Bag Co. Mr. Sprosty is with Sprosty Bag Co., Cleveland, Ohio. **Norman Elsas,** Fulton Bag & Cotton Mills, Atlanta, Ga., is vice-president, and **Howard Gill** was reappointed executive secretary.

B. E. Smith, recently with The Duplan Corp. in Lincolnton, N. C., is now general manager of All-Fiber Textile Machinery Co., Belmont, N. C.

Arthur Almstedt has succeeded William S. Speed as chairman of the board of directors of the Louisville (Ky.) Textiles, Inc.

Walter B. Hildebrandt has joined the Ely & Walker group of mills as technical director. His office will be located at F. W. Poe Manufacturing Co., Greenville, S. C.

Myron H. Ackerman, president of Foundation Worsted Mills, Inc., was selected by the awards committee of the Associated Men's Wear Retailers of New York to receive its 1951 "Man of the Year" award for his distinguished and outstanding contributions and service to the men's apparel industry.

Jack Welborn has been promoted from overseer of finishing to an assistant superintendent at Riegel Textile Corp., Trion Division. **D. C. Alexander** has been advanced to fill the overseer position.

L. C. Atkisson, president of Textile Specialty Co., Greensboro, N. C., has become a member of the Textile Machinery MRO Industry Advisory Committee of the National Production Authority. The committee will determine the impact of material shortages of the industry, and ascertain material requirements.

At the annual director's meeting, **Richard R. Higgins** was elected president of The Kendall Co. **H. R. Lane,** who had been president, is now chairman of the executive committee.

L. B. Herb, new superintendent of the Julius Kayser & Co. plant in Bangor, Pa., was formerly with Vanity Fair Hosiery Mills.

Oswald Fauteux, formerly superintendent of the Stevens Spinning Mill of Bachmann Uxbridge Worsted Corp., before its liquidation, is now plant manager of Maplewood Yarn Mills, Fall River, Mass.

Harry Burgin is now superintendent of Bon Ribbon Mills, Portland, Pa.

Walter Rodman succeeds Albert L. Rodman, deceased, as president of the Rodman Manufacturing Co., LaFayette, R. I. Mr. Rodman continues as treasurer.

Marshall Swan has succeeded Frank H. Swan, retired, as treasurer of Providence (R. I.) Dyeing, Bleaching, and Calendering Co.

Taylor Oakes is now personnel manager of Dover Cotton Mills, Shelby, N. C.

Joe L. Smith, vice-president of Barnhardt Bros. Elastic Corp., Charlotte, N. C., has been named to the board of Southern Webbing Mills, Inc., for which Barnhardt Bros. is sales representative.

Personal NOTES ABOUT MEN YOU KNOW

Paul H. Stone, formerly overseer at the Glenbrook Woolen Mills (now liquidated), has been made overseer of picking at the Crown Mills, Marcellus, N. Y.

William J. O'Shaughnessy, formerly in charge of quality control at Deering, Milliken Co., has joined Burlington Mills Corp. (N. Y.) as quality control coordinator.

H. W. Buchanan has been promoted to plant superintendent of Erlanger Mills, Lexington, N. C. He has been associated with the supervisory staff for the past nine years.

G. D. Harrison of Lewiston Division, Pepperell Manufacturing Co., was recently elected chairman of the National Association of Finishers of

Speed Up
Your Old Equipment
with New Load-Floating
Colson Casters
Rolling equipment that doesn't roll easily reduces efficiency and profits in your mill. There are 1458 standard Colson casters—many designed especially for Textile mills. They roll easily over all floors, swivel freely, are rust-resistant. Many models have thread guards. Colson also manufactures a wide range of trucks for the Textile Industry—hand trucks, platform trucks, box trucks, drum and barrel trucks and special devices. Write us or consult your phone book for the local Colson office.
Model 3-427-16 with thread guards, designed especially for the Textile Industry
Write Today For Free 68 Page Catalog
THE COLSON CORPORATION
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CASTERS • • LIFT JACK SYSTEMS • • INDUSTRIAL TRUCKS

Manager G. T. B. Reports:
(Name on request)

"High-Clearance Aluminum Alloy UP-RIGHT SCAFFOLDS

provide the only way to get over looms and spinning frames"

"Man-hour savings paid for our first four scaffolds in less than 6 months . . . as a result we've added 41 more!" adds G. T. B.

Mobile 10 ft. span or 6 ft. span scaffolds, adjustable to desired height, take only 1 minute to erect. Superintendents and master mechanics report that *SAVINGS ON EVEN SINGLE INSTALLATIONS OR MAINTENANCE JOBS MORE THAN PAY FOR UP-RIGHT SCAFFOLDS!*

Use this most modern means for work on ceilings, ducts, overhead machinery, sprinkler systems and lighting fixtures. Stronger than structural steel yet one-third the weight. No wrenches, wing nuts, bolts or loose parts.

WRITE FOR DESCRIPTIVE CIRCULAR

Before buying scaffolds insist on a demonstration . . .

then buy the best—the one and only **"UP-RIGHT" SCAFFOLDS**

DEPT. 131 • 1013 PARDEE STREET • BERKELEY, CALIF

Sales Offices: Atlanta, Boston, New York and Other Principal Cities • Factories: Berkeley, Calif. and Teterboro, N. J.

MILL MEN:

THINK OF IT... *Continuous FULL SPEED Production*

NEW ROLLS SEWED ON WITHOUT STOPPING

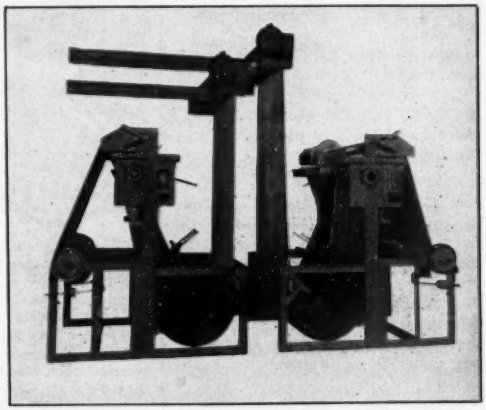
Mount Hope CONTINUOUS ROLL FEEDS

Maintain Full Speed Operation on All Roll Fed Machines

CUT COSTS

1. **Save Labor** — One man or woman can easily change and sew on new roll.
2. **Save Time** — Machine continues to run at full speed while roll is changed.
3. **Save Cloth** — Eliminates costly cloth damage due to machine stoppage.

MOUNT HOPE CONTINUOUS ROLL FEEDS are adaptable to practically any continuous feeding requirement. For further information write for Bulletin CRFI or a Mount Hope Engineer will be glad to advise you.



Typical installation ahead of printing machine. Shown are two continuously full Scray units with adjustable sides and fronts, standard center bar let-off and automatic stop control. One carries white goods, the other, back greys — feeding print machine continuously. Accurately controlled tension of the goods is supplied at the delivery end of Scray by use of two Mount Hope Open Width Tension Devices. (See top of picture)

MOUNT HOPE MACHINERY CO., 15 FIFTH STREET, TAUNTON, MASS.

Me., N. H. and Vt.—Parkman A. Collins, Boston • Mass., R. I., Conn.—Ingalls Engineering Co., Providence • Pa., N. J. and Southeastern N. Y.—John H. Andresen, Inc., Paterson • Northern and Western N. Y. and Eastern Ohio—A. B. Julin, Watertown, New York • Southeastern States—Slaughter Machinery Co., Charlotte • Midwest—S. S. Wilson, 1737 Howard St., Chicago • California—Sidney Springer, Los Angeles • Canada—W. J. Westaway, Ltd., Hamilton and Montreal.

Personal NOTES ABOUT MEN YOU KNOW

Textile Fabrics. **Sydney M. Cone, Jr.**, of Cone Finishing Co., Greensboro, N. C., and **Walter R. Howell**, of Bradford Dyeing Association, were re-elected vice-presidents.

John W. Lindsay, Jr., has been elected to succeed his late father, J. W. Lindsay, as president and treasurer of Guilford Hosiery Mills, High Point, N. C. **L. C. Parker** continues as vice-president, and **Miss Julia Liles** as secretary.

William Bailey has joined the recently organized Farrington Texall Co., Inc., Walpole, Mass., in an executive capacity. He was formerly with the Boston office of American Aniline Co.

Russell B. Newton, president of Dan River Mills, Inc., has announced the appointment of **Lowell E. Tjaden** as general sales manager. Mr. Tjaden was formerly with the Chase Candy Co., San Jose, Cal.

Kenneth Collins, vice-president and merchandising coordinator of several Burlington Mills sales divisions, was recently elected a director of the Advertising Council.

Obituaries

Robert C. Byler, advertising manager for SKF Industries, Inc., died suddenly on March 27.

John Garrou, 86, a founder of Waldensian Hosiery Mills, Valdese, N. C., died recently in Morganton, N. C.

Gordon H. Wood, vice-president of the Felters Co., Inc., until his retirement in 1947, died suddenly March 3 at the age of 61.

George Parks, 80, retired head of George Parks Manufacturing Co., Dexter, Me., died recently in Clearwater, Fla.

Floyd C. Todd, 59, president and treasurer of F. C. Todd, Inc., and active in the textile field for many years, died on March 21 at his home in Gastonia, N. C.

Mark E. Garrison, 75, a pioneer textile man of the Carolinas, died recently in Easley, S. C. Mr. Garrison was superintendent of Glenwood Cotton Mills when he retired in 1948.

Percy F. Merritt, 52, president of the Mary Leila Cotton Mills, Greensboro, Ga., died unexpectedly while on a trip to Savannah, Ga.

Funeral services were held on March 5 in Charlotte, N. C., for **Samuel L. Diggle**, 63, retired sales representative of Dixie Mercerizing Co., Chattanooga, Tenn. Mr. Diggle was a past president of the Carolina Yarn Association.

H. Wadsworth Crawford, president and general manager of Stevens Linen Associates, Inc., and associated with the business since 1905, died recently.

Mark J. Millea, 61, assistant superintendent of Clearflax Linen Looms, Inc., died recently in Duluth, Minn.

Funeral services were held on March 11 for **George P. Grant, Jr.**, 84, former treasurer of Grant Yarn Co., and former vice-president and manager of Fitchburg (Mass.) Yarn Co.

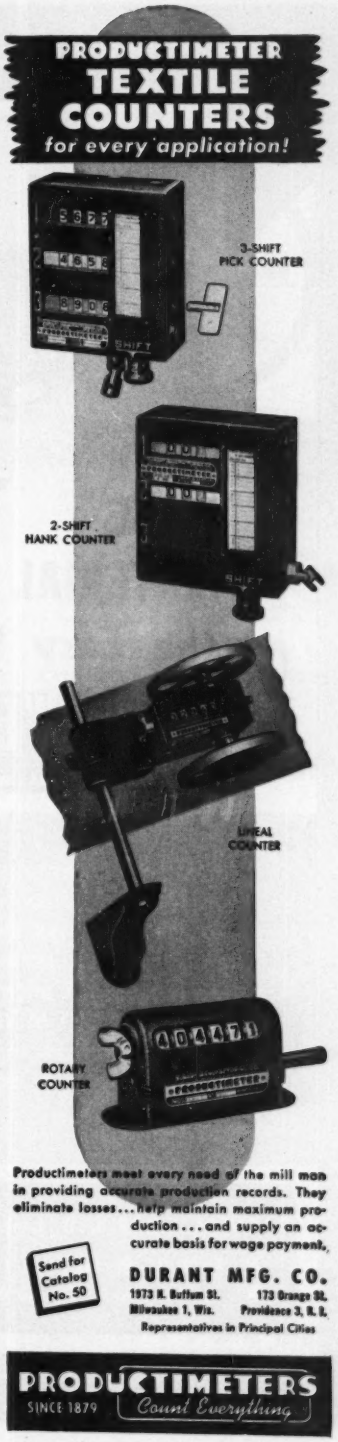
Herman Chopak, of Chopak Textile Co., died suddenly in Phoenix, Ariz. Mr. Chopak was a leader in the rayon industry, working tirelessly for progress in the converting field.

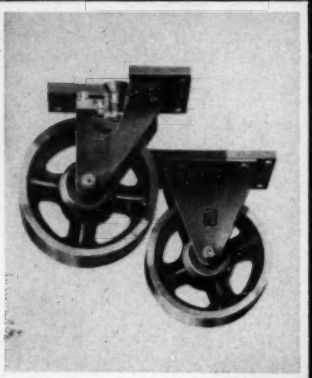
David M. Titelman, president of Puritan Knitting Mills, Altoona, Pa., until his retirement last year, died on March 20 in Mexico City. Mr. Titelman was a director of the National Knitted Outerwear Association and co-chairman of the Knitted Outerwear Foundation.

Trowbridge Marston, chairman of the board of directors of Kaumagraph Co., died March 22 in Wilmington, Del.

On March 27 **Edgar H. Betts**, 73, died. Mr. Betts was a former president of Cluett, Peabody & Co., Inc.

Funeral services were held on March 23 for **William D. Lewis**, 78, retired vice-president of L. B. Lockwood Co., Cleveland, O., wool dyer and processor.





MOVE MATERIAL *the Easy Way*

DARNELL

CASTERS & E-Z ROLL WHEELS

Maintain maximum employee efficiency – equip your hand trucks and other movable equipment with DARNELL Casters and Wheels–SAVE MONEY and eliminate that mid-afternoon "bogging down" of production.

DARNELL CORP. LTD. Long Beach 4, Calif.

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TENSION...

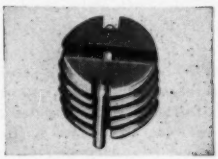
that stays where you want it

with the Blanchard Quarter Turn Locked Adjusting Screw on S6 Loom Shuttle Tension Eyes

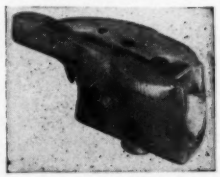
To keep exact filling tension always constant, specify this important Watson-Williams Shuttle Improvement on your S6 Loom Shuttle Tension Eyes. With the Blanchard Quarter Turn Locked Adjusting Screw, your own center or rear tension setting remains unaffected by loom vibration or shuttle handling.

Four evenly spaced grooves are channeled into the sides of each tension screw hole in the shuttle eye.

Ingenious spring wire bent down into two grooves of the screw, keeps the screw in place.



Spring wire catches lightly but effectively, every quarter turn of screw, wherever you set it, in the sides of the screw hole.



PLEASE anticipate your shuttle needs. Order ahead of time so that we may anticipate your exact requirements.

WATSON-WILLIAMS MFG. CO.

MILLBURY, MASSACHUSETTS

SOUTHERN REPRESENTATIVES:
Watson and Desmond, Box 1954, Charlotte, N. C.
Arthur J. Bahan, 810 Woodside Bldg., Greensville, S. C.
Greensboro, N. C. office, Jefferson Building

NORTHERN REPRESENTATIVE:
Guy C. Burbank, 32 Beaconsfield Rd., Worcester 2, Mass.

Alabama Mill Men Celebrate 50th Anniversary

Staff Report

THE ALABAMA Cotton Manufacturers Association celebrated its 50th anniversary by meeting in Biloxi, Miss., April 12-14. Though two business sessions were held, the spirit of informality reigned, as may be seen in the accompanying photos of the "kid party."

At a time when the industry is producing at an unprecedented rate in serving the needs of both armed forces and the civilians, and while being restricted by governmental decree, it was well that the mill men could take a few days to relax.

Hamp Morris of Geneva Cotton Mills, like his father before him, was elected president of the association—succeeding Tom Russell, elevated to chairman of the board.

Officers of Alabama Association

Chairman of Board: **Thomas D. Russell,** Russell Manufacturing Co.

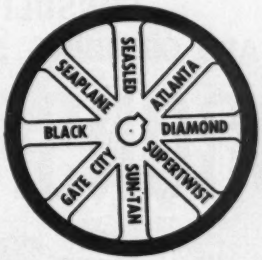
President: **D. Hamp Morris, 3rd,** Geneva Cotton Mills.

Vice-President: **Joe L. Jennings,** West Point Manufacturing Co.

Treasurer: **T. P. Roberts,** Adelaide Mills.

Executive Vice-President: **Dwight M. Wilhelm,** Montgomery, Ala.

The Right BELT
makes any Drive RIGHT



Correct Use of the PROPER TYPE Leather Belt on any flat belt drive makes the drive RIGHT, increases machine production, reduces down time, lengthens belt life, and saves you money. On this simple truth our business has grown for over twenty-five years.

We can save *YOU* money by putting the *right* type drive on each one of your machines, the *right* type belt on each one of your drives and the *right* type strap on each one of your looms.

ATLANTA BELTING CO.
ATLANTA • GEORGIA
"SPECIALISTS IN BUILDING BELTS TO SUIT YOUR DRIVE"

"SOUTHERN MADE
for
SOUTHERN TRADE"

PRECISION FINISHED . .

Bobbins and Cones made from the finest New England Hard Rock Maple and selected Hard Mountain Beech and Birch.

All Dogwood Skewers.

WE ARE LICENSED TO MANUFACTURE TUBES FOR

NEW ERA SPINDLES

Only Independent Bobbin Manufacturer in the South

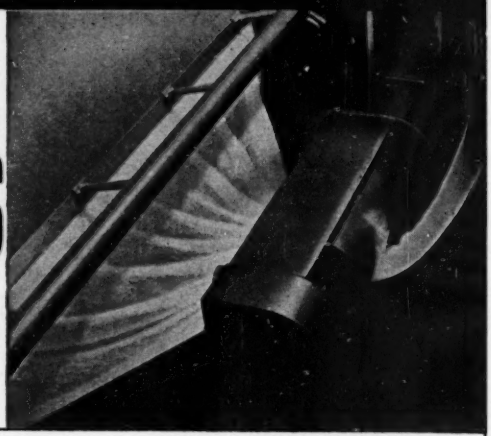
MONTICELLO
BOBBIN COMPANY
MONTICELLO, GEORGIA

10.000.000 CARDING POINTS NEED PERFECT GRINDING ROLLS

CONSULT THE
CARD-GRINDING SPECIALISTS

DRONSFIELD'S

TRAVERSE WHEEL GRINDER Nº 120



SOLE AGENTS FOR DRONSFIELD'S MACHINERY :-
JOHN HETHERINGTON & SONS INC.
BOSTON · MASS

SOLID GRINDING ROLLER Nº 112

DRONSFIELD BROTHERS LTD · OLDHAM · ENGLAND

The Weaver's Friend

Call your
KEEVER SALES - SERVICE MAN
On Slashing Problems

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TEXTILE SALES DIVISION · THE KEEVER STARCH CO.
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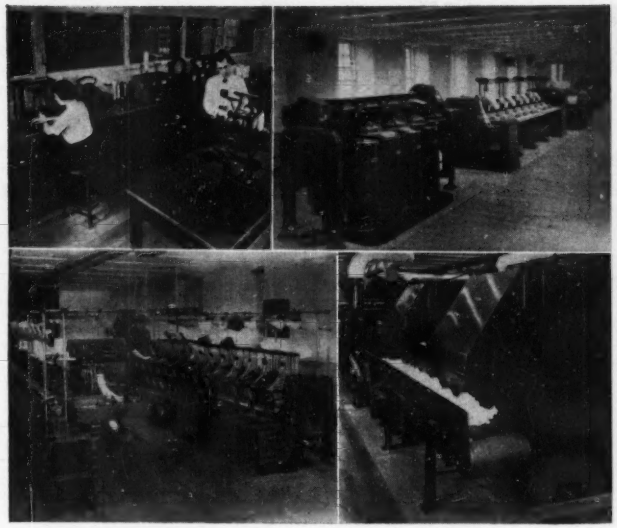


Whitin's Research and Development Division Expands and Consolidates in New Quarters

THE PHOTOS on this page were made in the new Research Experimental Development and Textile Laboratory Testing Divisions of Whitin Machine Works, located in a renovated 4-story granite building erected in 1840 and formerly housing the Whitinsville (Mass.) Cotton Mills. Over fifty of the company's latest model textile machines cover all processes from opening through winding and knitting, operating under modern humidity and temperature controlled conditions.

Approximately 24,000 square feet of floor area on the first two floors are required for the machines used for demonstration and testing. Engineering and other offices are on the third floor.

Mill men visitors will see fully equipped machines running on the type of fiber in which they are interested, and can at any point in the processing line get complete laboratory analysis of the quality of the product based on results from the latest types of testing equipment.

Many broad areas of research are scheduled for study, the objective being to learn more about the nature and control of fibers and the discovery of new processing methods, followed by the design of machinery to prove the usefulness of discoveries.

Previously the various departments were located in several places; bringing them together in one large building increases efficiency and enlarges the scope of operations of personnel working on research and development.

Fiber Society 10th Anniversary

The Fiber Society, Inc., celebrated its 10th anniversary during a meeting held in Atlanta, Ga., April 18-19. Original formation of the group was by physicists who were primarily interested in textiles. During the years of activity, though somewhat restricted while the war was being waged, 169 technical papers have been delivered by 144 speakers.

The society, whose purpose is the advancement of scientific knowledge of fibers and fibrous materials, meets twice a year.

The EMBLEM OF QUALITY METAL SHIELDS

For Spools and Bobbins

Anderson Shields are dependable protection against chipping, splitting, and breaking of spools, bobbins, and paper caps. Even the most minute details are carefully worked out to make Anderson the highest in precision, the smoothest in finish, the best in performance. The Anderson Emblem is your assurance of the finest shields you can buy.

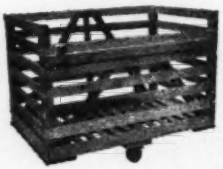
Insist on Anderson when you order metal shields.

TEXTILE SHIELD CO., INC.

J. N. ANDERSON, Treasurer

LAWRENCE, MASS., U. S. A.

Insure Against Rust and Snagging



with EXCEL No. 600 Slatted Conditioning Trucks

Brass screws and cadmium plated bolts eliminate any possibility of rust. Because they are fastened from the outside they also insure against snagging. The Excel No. 600 is constructed of highly polished cypress or maple and finished with two coats of heat and acid resistant Tropelite to form a durable snag-proof surface. Slatted sides, ends and bottom permit perfect saturation and drainage.

Casters are securely bolted to bottom of truck.

Representatives:

Mr. W. N. Eurey.....Lincolnton, N. C
Mr. Paul Eurey.....Lincolnton, N. C.
Industrial Suppliers, Inc.
La Grange, Ga.
Fall River Mill Supply Co.
Fall River, Mass
Mr. Theodore Huston
2601 N. Broad St., Philadelphia, Pa

EXCEL

Textile Supply Co.

"Excel Trucks Excel"

LINCOLNTON, NORTH CAROLINA

NEW Equipment AND MATERIALS

Note: Other items are described on pages 101 and 103

Molten Metal Machine for Vat Dyeing

(Continued from page 103)

the firm responsible for development of the process.

The claim is made that small or large quantities of goods may be dyed with vat colors with equal facility. Clean-up time between shades has been reduced to an average of five to ten minutes, with virtual elimination of end-to-end and side-to-side shading.

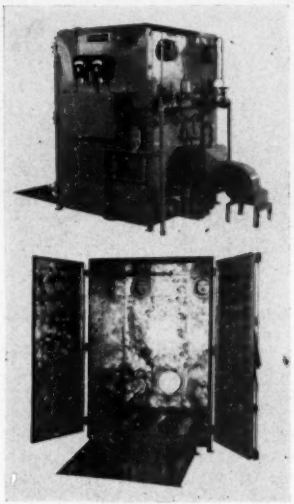
It is believed that the machine will also be of interest to the large producer of vat dyed fabrics. The very small dye bath which is utilized (slightly more than one gallon of dye liquor for a 60" machine) is said to insure even shades from end to end of a run, regardless of speed at which fabric is processed.

The equalization of pressure obtained in the metal unit itself makes possible the continuous vat dyeing of Jacquard fabrics with assurance that both high and low places of the fabric will be evenly dyed.

Also available is a laboratory model of the molten metal machine which is used for shade matching purposes. It is claimed that when shades are matched on this laboratory machine, production batches of the dye liquor may be made to exactly the same proportion of dyestuffs and chemicals per volume of water with assurance that the shade produced by the commercial machine will be the same as that produced in the laboratory.

Rodney Hunt Machine Co., Orange, Mass.

For additional data, request item E-113, using business reply card on page 232.



Universal Presetter (Paramount). Upper photo shows controls. Below, view of unit with doors open.

Universal Presetter for Nylon Hosiery

Operating on the principle of fully saturated atmosphere with air and free oxygen reduced to the minimum, the Universal Presetter for monofilament and multifilament nylon hosiery gives speedy, uniform results with complete flexibility for preboarding or one-boarding methods, according to the manufacturer.

Features claimed are: (1) Flexibility—presets before preboarding, presets for one-boarding of all nylon stockings, dries after presetting; (2) Uniform dye shades due to standardized and fully saturated treating atmosphere; (3) Straightest and finest seams; (4) Increased seaming production; (5) Improved fabric and fit; (6) Elimination of wet bulb problems and costs.

Production: Before preboarding (conditioning nylons before looping or seaming), 180 to 216 dozen pairs per hour. Presetting (no preboarding required)—one presetting of monofilament nylons prior to looping or seaming and before one-boarding of dyed work in retort, 180 to 216 dozen pairs per hour. One presetting of multifilament nylons after seaming

and before one-boarding of dyed work in retort, 180 dozen pairs per hour. When treating goods directly from full-fashioned knitting machines, 72 dozen pairs or more may be preset at one time.

Dependable controls automatically time cycles for both vapor setting and drying. Two new type atmospheric vents prevent pressure building up within the cabinet and avoid backdrafts or cooled air, which are so detrimental to the presetting operation. Overhead heater coils eliminate moisture drippings. Stainless steel interior prevents pulled threads. Low ramp facilitates wheeling truck into cabinet.

Paramount Textile Machinery Co., 131 South Wabash Ave., Chicago 3, Ill.

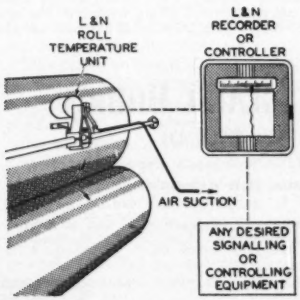
For additional data, request item E-105, using business reply card on page 232.

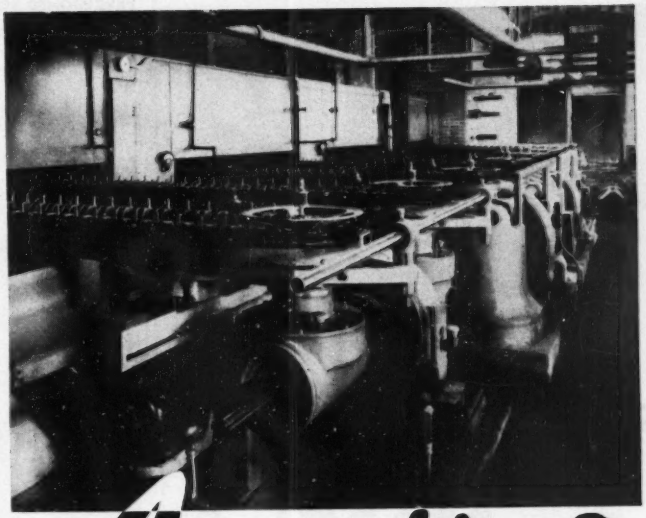
Device Measures Roll Temperature Without Touching Surface

A new Roll Surface Temperature Unit measures temperature of a moving roll surface without touching the roll. Because of the design, it cannot scratch, score, or in any way destroy delicate surface films, the manufacturer states. Temperature detected by the unit is recorded automatically by either a Micromax or Speedomax instrument supplied as an integral part of the complete equipment. The recorder can be equipped to operate signals or controls.

Applicable to roll diameters down to 9" and to flat surfaces, the detecting unit operates independently of surface speed, emission characteristics, and finish. It can be mounted at the center of the roll or at any other location, wherever actual temperature measurement is desired.

The primary element works on the principle that a moving object car-





4 in line

PICTURED is a tenter frame room of the Greenwich Printing and Dyeing Company, Inc., East Greenwich, R. I.

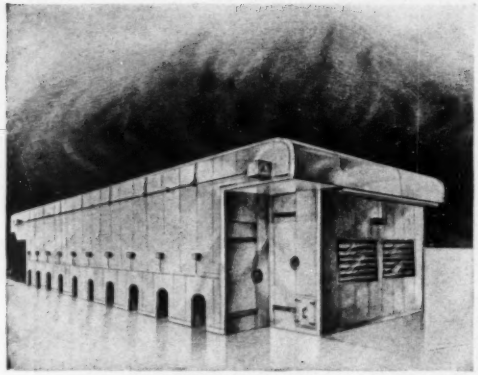
As progressive converters, they believe in the full use of the most up to date production machinery.

Their tenter ranges are completely equipped with **Winsor & Jerauld Manufacturing Company T-4 high speed straight and S-11 controlled type swing (jigging) tenters.** Two of the tenters pictured are model T-4 straight frames and two are S-11 swing models.

(Ref. Bulletins WS-102 and SW-300 respectively).

Either model is capable of handling goods up to 60 inches in width and makes this particular tenter frame room one of the most versatile of its kind today.

Winsor & Jerauld
MANUFACTURING COMPANY INC.
1268 EDDY STREET, PROVIDENCE, R. I., U.S.A.
Builders of Fine Cloth Finishing Equipment since 1900



"NATIONAL" MODEL G

AUTOMATIC PIECE GOODS DRYER AND CURING OVEN

Improved design, construction, operating and control elements of this modern machine establish higher-than-ever standards for production and quality in piece goods drying and curing. Each installation has further demonstrated its outstanding efficiency, speed and operating economy.

"INSUL-POLE" CONVEYOR . . . The patented rotating-expanding conveyor poles are made of a special heat-resisting composition. This "INSUL-POLE" was produced by "NATIONAL" to provide greatly increased service life for the conveyor at the higher temperatures required by modern processing developments.

COMPLETELY ENCLOSED ENDS . . . to assure minimum heat loss, and to prevent escape of noxious fumes in resin curing. HEAVIER CONSTRUCTION . . . including improved and heavier driving mechanism. IMPROVED AIR CONTROLS . . . to accomplish uniform air distribution in the new, *wider* machines.

DUPLEX CONVEYORS . . . The new MODEL G Dryers can be furnished with two independently operated and controlled conveyors in the same drying system. This permits two runs, of light and heavy goods, at two different speeds.

HEATING . . . May be steam, steam with gas booster, gas, electric or other means.

Send for New Illustrated Booklet

THE NATIONAL DRYING MACHINERY CO.
LEHIGH AVENUE and HANCOCK STREET
PHILADELPHIA 33, PENNA.

New England Agent: INGALLS ENGINEERING CO.—Providence, R. I.
Southern Agent: F. W. WARRINGTON—Charlotte, N. C.

DRYING AND CONDITIONING MACHINERY FOR TEXTILES, CHEMICALS, CERAMICS, ETC.

PRECISIONED TO SIZE — PRECISIONED FOR CONCENTRICITY — PRECISIONED FOR YOUR SPINDLES

PRECISION BOBBINS*
with NEW LONG-LIFE FINISH
made to YOUR specifications

for SILKS and SYNTHETICS

*For SILK and SYNTHETICS — COTTON and SPUN RAYON — WOOLENS and WORSTEDS

NEW LONG-LIFE Finish on NEB PRECISION bobbins prevents yarn abrasion and snagging, resists pull and "crush" of nylon . . . smooth, polished, HARD, LONG-LIFE Finish means clearer weaving . . . no hairy or chafed filling with even the most delicate filaments . . . try NEBs with LONG-LIFE Finish on *your* looms — and compare!

NEW ENGLAND BOBBIN & SHUTTLE CO.

Makers of PRECISION *Automatic Loom Bobbins*
NASHUA, NEW HAMPSHIRE

Representatives:

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HARRIS MFG. COMPANY, 443 Stonewall St., S. W., P. O. Box 1982, Atlanta, Ga.
H. W. CURTIS, 735 W. Crescent Ave., Allendale, N. J.
THE CHARLOTTE SUPPLY CO., Charlotte, N. C.
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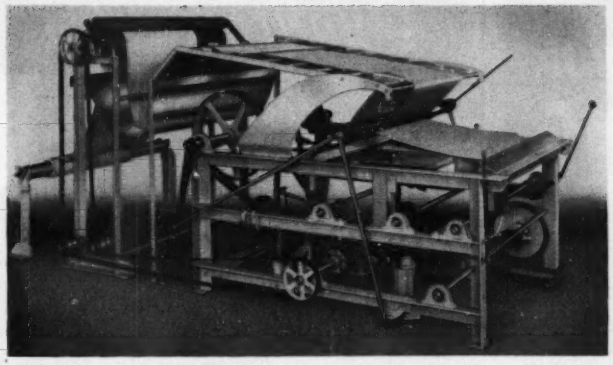
HARRIS & UNDERHILL, 446 Statler Building, Boston, Mass.



Cloth folder with air-operated table (Hall & Jansson).

ries with it a thin, closely adhering layer of air nearly the same temperature as the moving surface. Mounted 1/32nd of an inch from the surface is a measuring head, contoured to fit the roll. A continuous stream of air is sucked past the measuring element and thus heats it to virtually the same temperature as the roll surface.

Although recorded temperature is a few degrees lower than true surface temperature, the difference remains substantially constant and is therefore negligible in process control (-4 F or less). It is said that measurements are not appreciably affected by ambient temperature.

Leeds & Northrup Co., 4934 Stenton Ave., Philadelphia 44, Pa.

For additional data, request item E-112, using business reply card on page 232.

Cloth Folding Machine Has Air-Operated Table

A cloth folding machine said to be of new design has air-operated jaws for clamping the cloth and an automatic table that returns from its lowest operating position to the starting position by a reduction gear motor drive. It was built particularly for handling plisses in long cuts to manufacturer's requirements, according to the announcement.

The machine has all-steel construction of the main framework and ball bearings at all necessary wearing points. The air-operated jaws with automatic table lift and drop permit operator to handle more work more efficiently and obtain better yardage top and bottom of the piece, it is claimed. The simple, light construction of all reciprocating parts is reported to permit far greater production with considerably less operator fatigue.

Standard machines are designated as No. 1, No. 2 and No. 4 low top. An overhead, or high top, machine is available for bleached goods. Machines are also built to customer specifications. For example, the feed roll stand may be any height, the rails may slope up or down toward the operator, the feed rolls may be installed on the rails or back of the operator for bleached goods.

Cloth folders may be built for almost any depth of pile by delivering goods from underneath the front jaw to a pallet. Tables for cottons may be ratchet or air-operated; for silks, spring or air-operated; or an automatic table is available.

Hall & Jansson Co., 177 Highland St., Worcester 2, Mass.

For additional data, request item E-103, using business reply card on page 232.

Shuttle Refinishing and Sizing Machine

For properly maintaining shuttles a Shuttle Refinishing and Sizing Machine is available. The machine will refinish each of the shuttle surfaces (front, back, and bottom) to accurate dimensions. The manufacturer states that in actual practice accuracy of plus or minus .003" has been obtained.

All surfaces of shuttles refinished in this machine will be parallel due to the fact that the shuttles are held

AT YOUR SERVICE

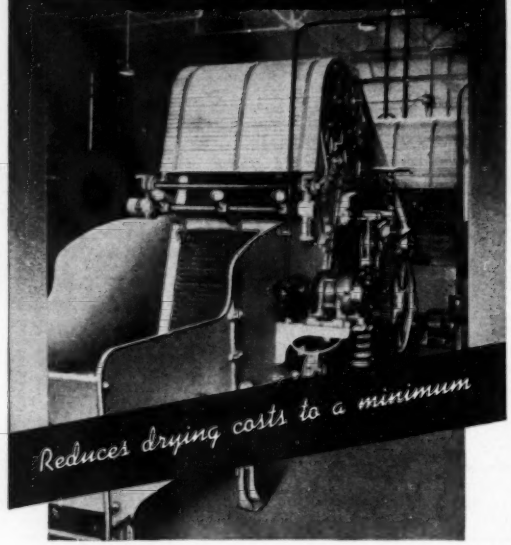
The Hubinger technical staff and laboratories are widely recognized for their thorough and practical knowledge of the use of starch for textiles. Their experience assures you of the *best* product, *tailor-made* to fit *your specific needs*. Consult us on any production problem—at no obligation, of course.

THIN BOILING AND TEXTILE STARCHES

Absolutely uniform and dependable. Careful quality control assures maximum performance in your mill.

THE HUBINGER COMPANY
KEOKUK, IOWA · · EST. 1881

★ Continuous–Automatic EXTRACTING



TODAY'S MODERN EFFICIENT METHOD

The SARGENT "CONTINUOUS" EXTRACTING SYSTEM is saving thousands of dollars for many woolen, worsted and cotton mills. It employs an Automatic Feeder, the Extracting or Squeeze Roll Machine, and a Stock Dryer. This method of removing surplus dye, bleach, or scouring liquor from wool, staple rayon fibres, shoddy, mixed fibres, cotton and cotton linters, before drying, offers many distinct advantages, including:

SINCE 1852

- One-man operation, with capacity up to 2,500 pounds per hour.
- Machine made in five widths for varying plant requirements.
- Even and continuous flow of material into and through the dryer.
- Uniform drying results—savings in power—savings from continuous action—savings in labor, with ease of operation.

Write us for complete details.

LARGEST MANUFACTURERS OF STOCK DRYING AND WOOL WASHING EQUIPMENT IN AMERICA

C. G. SARGENT'S SONS CORPORATION
Graniteville, Massachusetts, U.S.A.

Quality Tested

CARTER TRAVELERS

By micrometer and microscope . . . by our own special laboratory tests, the quality of CARTER TRAVELERS is scientifically controlled from raw material to finished product.

This scientific control produces travelers absolutely uniform in weight, temper and shape—an essential factor in the maintenance of yarn quality and strength at high spindle speeds.

CARTER TRAVELER COMPANY
DIVISION OF
A. B. CARTER, INC.
GASTONIA N. C.

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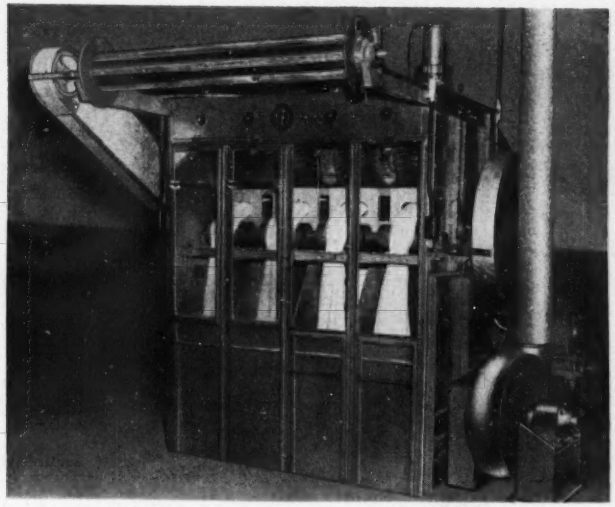
R. D. HUGHES SALES CO., 2201 CEDAR SPRINGS, DALLAS 1, TEXAS
HUGH WILLIAMS & CO., 47 COLBORNE ST., TORONTO 1, CANADA



Riggs & Lombard semi-continuous crusher for wool fabrics.

in the machine by the shuttle tips. Corners can be very neatly rounded, having the same dimensions throughout the length of the shuttle.

At the back of the machine a cutting wheel is provided for recutting the thread groove and for relieving the bottom of the shuttle.

Material for coating the refinished shuttle so that it can be immediately placed in operation in the loom is also available from the manufacturer of this machine. It is designated "Shuttle Refinishing Compound."

Machine Design Products, Inc., 63 North St., Grafton, Mass. (E-111).

Improved Semi-Continuous Crusher for Carbonized Wool Fabrics

Important improvements now incorporated in the design of the Riggs & Lombard semi-continuous crusher are:

Top roll pressure equipment has been redesigned to give finger-tip pneumatic pressure control, resulting in, the manufacturers claim, greater ease of operation and more uniform pressure from roll to roll.

Exhaust equipment has also been redesigned to effect more complete exhaustion of dust from the inside of the machine; consequently fabrics come out much cleaner.

Riggs and Lombard, Lowell, Mass.

For additional data, request item E-101, using business reply card on page 232.

Cleaning Looms "On-the-Floor"

A concentrated emulsion cleaner known as "Magnusol" is reported to be very useful for cleaning looms "on-the-floor."

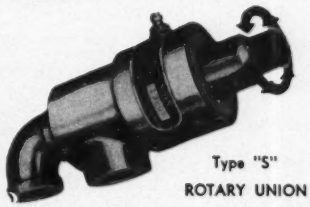
A mixture of one part Magnusol to eight parts of safety solvent is sprayed on all surfaces of a loom by one man. By the time he has reached the end of the machine opposite his starting point, this solution will have penetrated into all dirt deposits, wherever located—even in areas inaccessible to brushing—and loosened their bond to the metal surfaces. Then the same man goes over the loom with a steam gun.

All the grease, oil, dirt and fibers are flushed off and out in the emulsion which forms when the Magnusol mixture combines with water. If a steam gun is not used, the same results can be obtained by flushing with water at tap temperature. The steam gun is preferred because it greatly speeds drying after flushing.

Aside from the very thorough cleaning job done by this solution, it

ROTARY UNIONS

TRADE NAME



Type "S"
ROTARY UNION

Save Money and Increase Production

These revolving steam connections require practically no maintenance for months on end . . . no tightening, no repairs, no parts . . . and cut mechanics' time way down. They save on steam and materials and cut power consumption by 30% to 80%. Positive sealing at steam pressures up to 200 PSI.

Ball bearing construction permits high speeds and prevents stretching of warps. Other exclusive features prevent operating failures and reduce down-time.

Write today for Catalog 600-I and learn how you can save money and increase production by using ROTARY UNIONS on your slashers, dry cans, calenders, printing, and coating machines.

"WHERE Good Connections COUNT"

PERFECTING SERVICE COMPANY

332 Atando Ave. (Home Office and Factory) Charlotte, N. C.

Offices in Jersey City — Chicago — Philadelphia — Cleveland — Pawtucket, R. I.

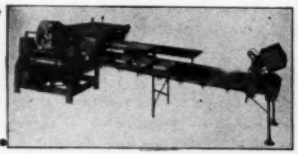
wrapping as you like it

You can be sure of good package appearance when you wrap on Hayssen Automatic Wrapping Machines . . . and the unit-cost of wrapping will be low. Because Hayssen machines are mechanically simple, rigid, and have few moving parts, the maintenance cost is lower and machines have a longer life. Ask for free descriptive literature, — no obligation.

HAYSSEN MFG. COMPANY • SHEBOYGAN, WIS.

Hayssen ELECTRIC EYE WRAPPING MACHINES

WRITE FOR COMPLETE INFORMATION TODAY

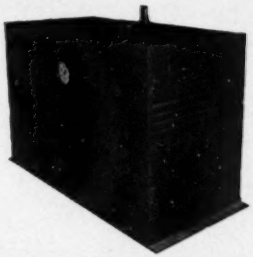


HEADQUARTERS IN THE SOUTH FOR HYDRAULIC MACHINERY

For More Bales Per Hour Use—

"SUPER DRAULIC"

HYDRAULIC POWER UNITS



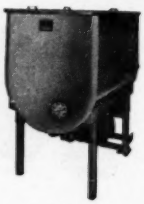
For better and more economical operation of your cotton gin presses. Rotary type pump provides smooth, fast performance. Push button or simple lever control valve saves operator time. Can be furnished in any speed desired. Delivered and installed by competent service men.

Write for complete information:

STANDARD DESIGNERS INCORPORATED

12 BREVARD ROAD ● ASHEVILLE, N. C.

tanks for the TEXTILE INDUSTRY



The new "CHR" can be used for cooking or cooling. Wiping action of mixing paddles keeps mix from lumping or adhering to tank sides.

Write today for bulletin CHR-50.

Standard capacities: 60, 150, 300, 500 and 1000 gallons.

These stainless steel, fully-insulated SAN-I-TANKS . . . size cookers . . . dye tanks . . . are made especially for the textile industry, custom-built at standard prices for special or standard applications.

The new "CJ" is a vertical tank designed for maximum efficiency in minimum space. As with other SAN-I-TANKS, "CJ" can be equipped with top or side-entering agitators and other fittings and connections. Standard capacities: 60 to 1350 gallons.

Write today for bulletin JS-50.

Belding 7, Michigan

STAINLESS STEEL SAN-I-TANKS

METAL GLASS PRODUCTS COMPANY

Suppliers of Stainless Steel SAN-I-TANKS of All Types for the Textile Industry

NEW Equipment AND MATERIALS

is said to have a number of advantages: It is non-toxic; the cleaning solution is non-inflammable; it is harmless to metals and will not attack painted surfaces where a good grade of paint has been used.

Much better cleaning is obtained 3 to 4 times faster than with ordinary cleaning methods, the manufacturer claims.

Magnus Chemical Co., Inc., South Ave., Garwood, N. J.

For additional data, request item E-108, using business reply card on page 232.

Draper Corp. History

Five Generations of Loom Builders is the title of a history of the Draper Corporation as prepared by William H. Chase, director of advertising of the Draper Corp., and published by the Draper Corp. In the words of the sub-title, it is "a story of loom building from the days of the craftsmanship of the hand loom weaver to the modern automatic loom of Draper Corporation, with a supplement on the origin and development of the arts of spinning and weaving."

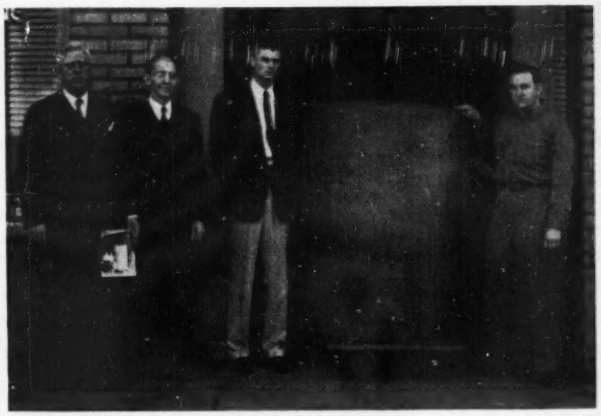
Continuous Shrinking Range Consumes Less Steam

A London type shrinking unit, called the "Unishrink" continuous shrinking range, has a horizontal conveyor which, according to the manufacturer, carries the cloth in a completely tensionless position. Patented air flow feature insures even drying, it is claimed, and 4% to 10% shrinkage can be obtained in the warp with minimum width shrinkage at continuous speeds from 15 to 50 yards a minute, depending upon the weight of the fabric.

Range can be operated by one man. The steam consumption for average

(Continued on page 233)

Not an Every Day Occurrence

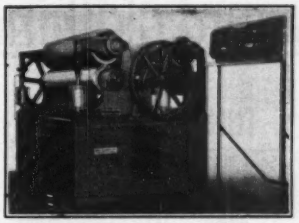


This is the second 54-inch, three-ply leather belt manufactured by Atlanta (Ga.) Belting Co. for Brooks-Scanlon Corp. of Foley, Fla. The first one was delivered in 1936.

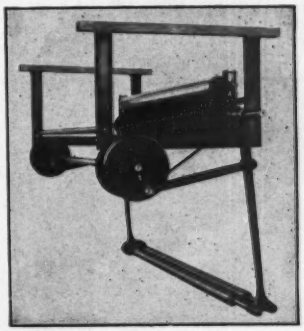
Said to be as large a belt as ever manufactured in the South, it is 182 feet long, weighs 2400 pounds, and will be operated at a surface speed of a mile a minute when installed on the 800 hp Corliss steam engine for which it was made.

According to Ernest D. Key, Sr., president of Atlanta Belting, centers out of 240 "critters" were utilized in its manufacture.

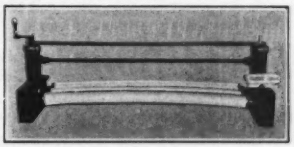
Shown here standing alongside the belt as it is prepared for shipment are (left to right): Mr. Key, G. H. Hardegree, Ernest D. Key., Jr., and Charles Williams. In the hand of Mr. Key, Sr., is a photo of the similar 1936 incident.



New Tandem Mangle combines water and starch mangle in one unit. Machine is roller bearing with stainless steel or brass bottom rolls and top rubber rolls. Pressure is applied by air cylinders and the machine is fitted with gauges to insure uniform and the desired pressure.



New Square Frame Ceiling Folder with rubber covered draw roll and rider roll and swing rolls side by side geared together.



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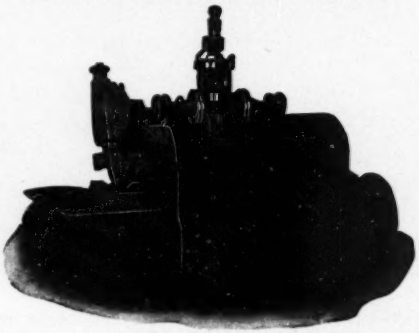

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5-3. Conservation Maintenance Plan. A practical approach for making the most out of rubber products on hand is being offered by the Quaker Rubber Corporation in an effort to help the nation conserve rubber and obtain longer service from industrial rubber products. Included is a handbook, wall charts, and monthly bulletins. This data contains hundreds of illustrations and suggestions on how to select, install and maintain conveyor belting, flat transmission belting, V-belts, hose and packing. Quaker Rubber Corporation, Philadelphia 24, Pa.

5-4. Mercerization Study. "A test for Mercerization in the presence of Dyes," is particularly recommended to technicians concerned with meeting military specifications for fully mercerized cotton fabrics, and it describes the Barium Hydroxide Absorption Method for measuring the degree of mercerization in cotton fabrics. Dexter Chemical Corporation, Box 1, Blvd. Station, New York 59, N. Y.

5-5. Fluidyne Pumps. New booklet B-2300 describing Peerless Fluidyne pumps as being horizontal, end-suction centrifugal type and may be driven by electric motors in sizes from ¼ to 150 H.P., affording a capacity range from 10 to 5500 gallons per minute. Liquids can be pumped against heads up to 260 ft. Fully described with cutaway diagrams and other engineering specifications. Peerless Pump Division, Food Machinery and Chemical Corp., 301 West Avenue 26, Los Angeles 31, California.

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5-8. Textile Coloring and Finishing. Calco Technical Bulletin No. 818, by the 1950 Olney Medallist, Dr. George L. Royer, reviews the important scientific contributions to textile dyeing and the trend toward specialization. "Synthetic fibers and advances in chemicals, dyes and resins in the last twenty years have contributed to more satisfactory textiles, but they also have complicated the problems of the textile chemist," Dr. Royer states. Advertising Dept., American Cyanamid Company, Calco Chemical Division, Bound Brook, New Jersey.

5-9. Precipitron Electronic Air Cleaner. An eight page booklet explaining in non-technical language how the Precipitron operates, why it cleans air so efficiently, where it can be used to advantage, how it is constructed, and the kind of unit to select for a given job of air cleaning. Westinghouse Electric Corp., Sturtevant Div., 200 Readville St., Hyde Park, Boston 36, Mass.

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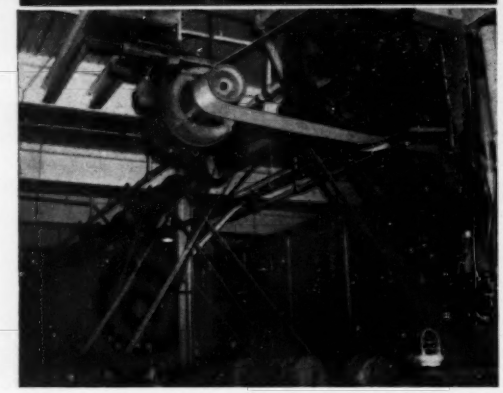

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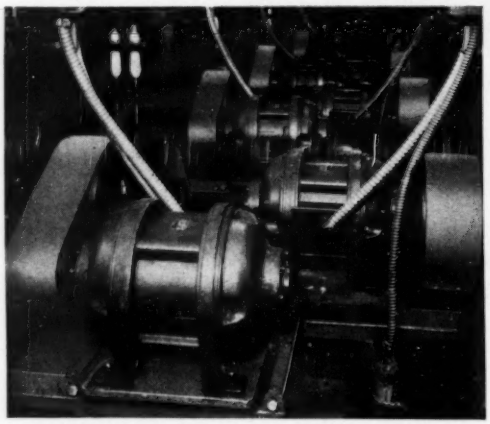

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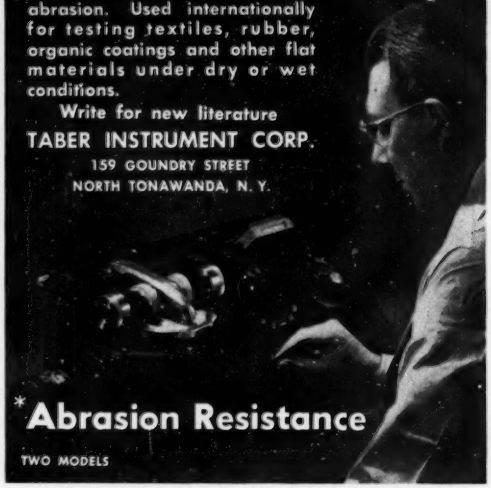

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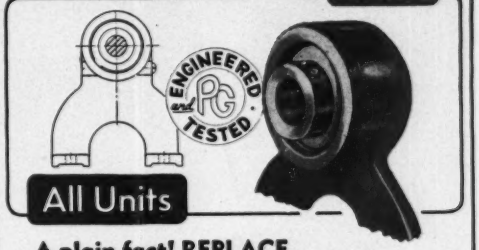

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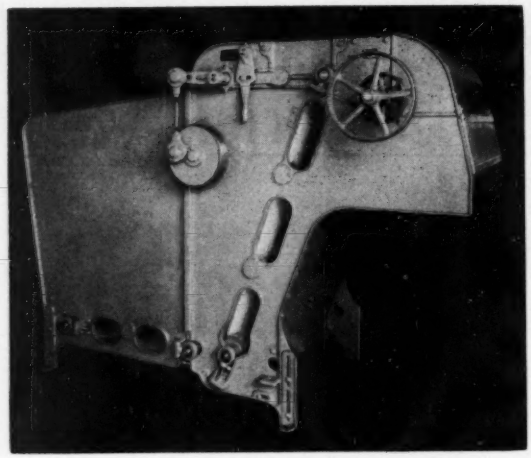

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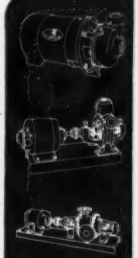

DISTRIBUTORS IN PRINCIPAL CITIES

AURORA Always PUMPS

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90 Loucks St., Aurora, Ill.

458 CONICAL RINGS AND FLYERS — Special data available on the Herr conical rings and flyers.—HERR MANUFACTURING CO., INC., Buffalo 2, N. Y.

459 TENSION CONTROLS—Folder describing tension compensation and automatic tension controls. Three models—Standard, Warp, and Twin Disc Fully described with specific application.—WALTER KIDDE & CO., INC., Belleville 9, N. Y.

WEAVING, SLASHING

501 LOOMS—An accordion type folder is available entitled "Unfolding to You the World's Largest Line of Looms". Information on all types fully discussed.—CROMPTON & KNOWLES LOOM WORKS, Worcester 1, Mass.

502 COUNTING AND MEASURING DEVICES—Condensed Textile Catalog illustrating and describing pick counters, hank counters, cut meters, measuring counters. Wide range of counting devices for production recording on all types of textile machinery.—VEEDER-ROOT, INC., Hartford, Conn.

507 SLASHER PRODUCTION—GN-488, new bulletin on slasher production, describing how quality yarn can be improved through the use of this company's variable speed equipment to automatically control and regulate the speed of the main drive, beam drive and stretch control of the slasher.—REEVES PULLEY COMPANY, Columbus, Ind.

508 LOOM PRODUCTION CHARTS—Convenient celluloid card showing yards per loom per week of 40 hours at various loom speeds.—RALPH K. LOPER CO., Greenville, S. C.

515 TEXTILE COUNTERS—Catalog No. 50 illustrating and describing complete line of Productimeter Loom Pick Counters; Hank Counters; Yardage, Electric and Predetermined Counters; Tachometers, etc.—DURANT MANUFACTURING CO., Milwaukee 1, Wisconsin.

516 WEAVE ROOM ACCESSORIES — Weave-room accessories catalog and literature on new plastic, bronze bearing sheave, which solves a troublesome weave room problem.—EMMONS LOOM HARNESS COMPANY, Lawrence, Mass.

518 NIAGARA TWIST-SETTER — Folder describing the revolutionary Niagara Twist-Setter which has no moving parts. This yarn is sprayed from all sides to afford maximum economy.—SEYDEL-WOOLLEY & CO., Atlanta, Ga.

524 JOHNSON WARP SIZES—12 page fully illustrated booklet, describing the 7 cylinder sizer with stretch indicator and finger-tip control of stretch. A point-by-point analysis.—CHARLES B. JOHNSON MACHINE WORKS, Paterson, N. J.

529 STRAPPING—Looms and harness strapping, complete line. Full information supplied on request.—TON TEX CORPORATION, 16 West 61st St., New York 23, N. Y.

530 ROTARY UNIONS—New catalog shows how to cut costs, get better sealing, on can dryers, slashers, calenders, etc. Catalog No. 500 entitled "Where Good Connections Count."—PERFECTING SERVICE COMPANY, Atando Ave., Charlotte, N. C.

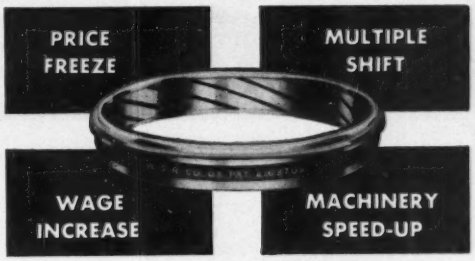
DYEING, FINISHING, CLOTH ROOM

603 DEPUMA—An odorless, viscous, non-evaporating emulsion which is highly efficient as an anti-foam, useful in all phases of dyeing and printing.—AMERICAN ANILINE PRODUCTS, INC., New York, N. Y.

605 CONTINUOUS AUTOMATIC EXTRACTING MACHINE—Folder describing the most efficient method of extracting excess liquid from fibrous materials.—C. G. SARGENT'S SONS CORP., Graniteville, Mass.

607 DYEING OF TEXTILES—Bulletin S-1336 explains how uniform results can be assured if process is temperature controlled. New regulator with electric pilot has indicating thermostat on which settings are changed by turning a knob. Diagrams of system.—SARCO CO., INC., New York City, N. Y.

610 PROCTOR DRYING MACHINERY FOR THE TEXTILE INDUSTRY — Illustrated, descriptive catalog on all types of dryers for raw stock, warps, package dyed and automatic skein yarn. Also includes Pre-Boarding and Automatic Boarding Machines for hosiery.—PROCTOR & SCHWARTZ, INC., Philadelphia, Pa.



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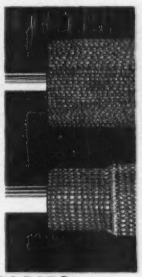

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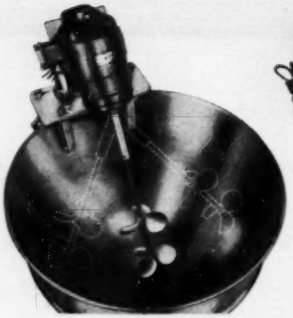

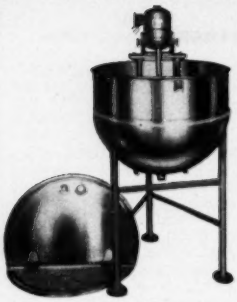

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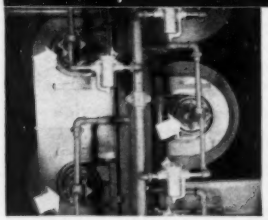

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629 **SEVEN TANK BALL BEARING CRABBING MACHINE**—Circular 1073 describes this 7 tank stainless steel roller bearing open width machine for scouring, open soaping, crabbing, dyeing, etc. Each pair of squeeze rolls is operated by separate D.C. motors controlled by a built-in dancer or compensating roll. Pressure supplied by air cylinder or air motors and the final nip is of 15 ton capacity for extracting, according to the circulars.—BIRCH BROTHERS, INC., Somerville 43, Mass.

630 **VAT DYEING OF WOOL**—Write for Calco Technical Bulletin No. 727 outlining fundamental dyeing procedure, and explaining new advances in the technology of wool dyeing and finishing.—CALCO CHEMICAL DIVISION, AMERICAN CYANAMID CO., Bound Brook, N. J.

640 **"CIRCULATING" SKEIN DYEING MACHINE**—Booklet illustrating the principle behind the stainless steel machine which have "Revolutionized Skein Dyeing," for filament and spun synthetic yarns in skein form.—SMITH, DRUM & CO., Philadelphia 33, Pa.

DYESTUFFS, CHEMICALS, SOAPS

705 **THEORETICAL AND APPLIED SILK-SOAKING**—Attractive 23-page booklet outlining methods of silk-soaking and outlining investigation on the soaking, back-winding and degumming of silk.—HART PRODUCTS CORP., New York Cty.

712 **VANDERBILT MATERIALS**—Available is a 6-page booklet describing non-toxic fungicides, and their use in textile operatons.—R. T. VANDERBILT CO., INC., New York, N. Y.

713 **LIOVATINE ED**—Vat dyeing assistant increasing penetration and level dyeings with maximum yield of color.—SANDOZ CHEMICAL WORKS, New York City.

715 **AQUAROL AND ARKANSAS PRODUCTS**—Bulletin on Aquarol water repellent finish with method of preparing bath; also on other Arkansas products for cotton, wool, silk and yarn, hosiery processing.—ARKANSAS CO., INC., Newark, N. J.

751 **LOMAR PW**—Bulletin No. 21 describes the actions and uses of this dispersing agent. Two general functions described as prevention of rapid sedimentation and decrease in viscosity—fully discussed.—JACQUES WOLF & CO., Passaic, N. J.

756 **TEXTILE SPECIALTIES**—Listing and describing a wide and complete range of specialties manufactured and sold by American Cyanamid Company formulated to the latest advances in textile chemistry.—AMERICAN CYANAMID COMPANY, 30 Rockefeller Plaza, New York 20, N. Y.

766 **DU PONT PEROXIDE BLEACHING SYSTEMS**—New book illustrating and describing this continuous peroxide bleach system. Layouts and other information included.—E. I. DU PONT DE NEMOURS & CO., ELECTROCHEMICAL DEPT., Wilmington, Del.

773 **TECHNICAL CHEMICAL DATA SHEETS**—Complete set for dyeing, printing and finishing operation, showing major operations, performance and advantages.—ONYX OIL & CHEMICAL CO., Jersey City 2, N. J.

778 **DESIZING ENZYME**—Data sheet "HT" describes new stable high temperature desizing agent. Effective on both starch and gelatine sized goods. Being used by the continuous pad-steam method.—ROYCE CHEMICAL COMPANY, Carlton Hill, N. J.

780 **HYDROGEN PEROXIDE**—Compilation of physical data and properties of hydrogen peroxide. Reaction listed in organic and inorganic chemistry along with application.—BECCO SALES CORP., Buffalo, N. Y.

KNITTING

801 **THE WILDMAN SINGLEHEAD FULL-FASHIONED HOSIERY MACHINE**—Literature on request from the WILDMAN MFG. CO., Full-Fashioned Division, Norristown, Pa.

812 **CIRCULAR KNITTING MACHINES**—Interesting, informative and well illustrated is this six-page folder, just released, which describes this company's small diameter circular knitting machine.—H. BRINTON COMPANY, Philadelphia 34, Pa.

816 **THE NEW REINER KAYLOOM**—A combination Knitting Weaving Loom, featured in an illustrated catalog, showing filler attachment and other important points along this machine.—ROBERT REINER, INC., Weehawken, N. J.

818 **FORGED HEAD ALUMINUM BEAMS**—Bulletin 49-A shows new beam capable of holding high yardage of nylon and rubber warps, with specifications. Also describes permanent mold aluminum tricot and section beams.—MILTON MACHINE WORKS, INC., Milton, Pa.

822 **HIGH SPEED JERSEY CIRCULAR MACHINE**—Booklet describing Supreme's line of high production, body-size and large diameter jersey machine, Model MJ, for underwear and outerwear.—SUPREME KNITTING MACHINE CO.

828 **THE KIDDE KNITTER**—Bulletin describing this newest in Raschel-type warp knitting machines and higher production attained with it.—KIDDE MANUFACTURING CO., INC., Bloomfield, N. J.

SEWING MACHINES

904 **CONDENSED CATALOGUE**—A 40-page pocket-sized booklet illustrating and describing sewing machines adaptable for practically all phases of the needle trade.—WILLCOX & GIBBS SEWING MACHINE CO., New York, N. Y.

912 **ELASTIC HEMMING AND INSERTING MACHINES**—Bulletin No. 833, illustrating and describing the improved high speed machine Style 992-5, for work on undergarments, dresses, pajamas, etc.—WILLCOX & GIBBS SEWING MACHINE CO., New York, N. Y.

915 **THE NEW UNION SPECIAL LOCKSTITCH MACHINE**—Information on the new model which cuts production time on sewing operations is contained in Bulletin No. 258.—UNION SPECIAL MACHINE CO., Chicago 10, Ill.

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1001 **HOW TO DETERMINE WHERE OVERHEAD MATERIALS HANDLING EQUIPMENT CAN BE USED PROFITABLY**—Profusely illustrated. Gives clear, concise understanding of materials handling. Helps you to determine where and what equipment might be used to speed production and increase profits.—CLEVELAND TRAMRAIL DIV., Wickliffe, Ohio.

1002 **BASKETS & TRUCKS**—Illustrated catalog describing canvas baskets and trucks of all types and sizes with recommended uses emphasized.—MEESE, INC., Madison, Ind.

1003 **CASTERS AND WHEELS**—192 pages, describing casters and wheels suitable for all types of industrial applications. Every mechanical engineer and purchasing agent should have this.—DARNELL CORP., LTD., Long Beach, Calif.

1004 **PITTSBURGH COLLAPSIBLE CARGOTAINERS**—How your materials handling cost can be reduced by the use of steel wire containers. Brochure shows them in actual use.—PITTSBURGH STEEL PRODUCTS COMPANY, Pittsburgh 30, Pa.

1006 **BASKETS, HAMPERS & TRUCKS**—This 24-page catalog is profusely illustrated and contains complete description on the Dandux line, especially designed for the textile industry.—C. R. DANIELS, INC., Daniels, Md.

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1009 **CANVAS PRODUCTS**—A complete listing with illustrations of Dandux Canvas Products. For easy fingertip reference and handy file size. Brief but factual information.—C. R. DANIELS, INC., Daniels, Md.

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1011 **TEXTILE TRUCKS**—Booklet describing doff boxes, frames and trucks, yarn, waste, platforms, conditioning, steep lap, fiber, utility trucks, etc. Uses and description.—EXCEL TEXTILE SUPPLY CO., Lincolnton, N. C.

1025 **ELECTRIC HOISTS AND CRANES**—Booklets lets describing a complete line of Electric Overhead, Cab and Floor-Operated Traveling Cranes, and a similar complete line of Electric Hoists. All fully discussed with pictures and engineering diagrams.—SHEPARD NILES CRANE & HOIST CORP., Montour Falls, N. Y.

1030 **C-D HOLLOW WARE**—This 32-page catalog, R-11, profusely illustrated in color, shows Continental-Diamond's line of boxes, trucks, cans, barrels, baskets and trays. Complete description and specifications are given on each item. — CONTINENTAL-DIAMOND FIBRE CO., Newark 38, Del.

MISCELLANEOUS

1101 **AUTOMATIC BOBBIN REFINISHER**—A descriptive bulletin illustrating and describing method of refinishing throwing bobbins on a production schedule.—J. M. NASH COMPANY, 2300 N. 39th St., Milwaukee, Wis.

1102 **BALING PRESSES**—An illustrated folder describing this manufacturer's complete line of balers for all materials. Both Downstroke and Upstroke models.—ECONOMY BALER CO., Ann Arbor, Mich.

1103 **UNBRAKO SCREWS**—Illustrated 16-page booklet No. 570 gives data on Unbrako hollow set screws, with knurled point, self-locking features. Includes miscellaneous screw and locking nut data.—STANDARD PRESSED STEEL CO., Jenkintown, Pa.

1104 **INTERPRETATION OF ANALYSIS**—In compiling this brief collection of terms which most frequently appear in analysis of surface active chemicals, an attempt has been made to explain as clearly as possible the meaning of these terms to those who have had little or no chemical training.—NOPCO CHEMICAL CO., Harrison, N. J.

1106 **ILLUMINATED MAGNIFIER**—Folder showing how Pike Flash-O-Lens is used in textile inspection; illustrated to show various models including the Pike Master Magnifier Set.—E. W. PIKE CO., Elizabeth 3, N. J.

1108 **FABRICATION OF U. S. STAINLESS STEELS**—136-page book covering use of stainless steel in textile equipment from cutting to cleaning. Includes corrosive-resistance tables for chemicals.—CARNEGIE-ILLINOIS STEEL CORPORATION, Pittsburgh, Penn.

1109 **PUMPS**—Catalog R-131-1 describes complete line of horizontal and vertical centrifugal pumps for every water handling service.—PEERLESS PUMP DI., Food Machinery Corp., Los Angeles 31, Calif.

1111 **BRUSHES**—A 28-page booklet is now available which describes and illustrates this manufacturer's line of brushes for the textile industry.—GASTONIA BRUSH COMPANY, Gastonia, N. C.

1112 **THE RANDOM WEB PROCESS**—Bulletin No. 101 describes the Rando-Webber and Rando-Feeder machines, and discusses the origin and development of the Random Web process which produces a non-oriented web suitable for processing into felts, wadding, heavy mats and non-woven fabrics on a continuous basis. Engineering data and cut-away diagrams.—CURLATOR CORPORATION, Textile Division, Rochester, N. Y.

1115 **TEXTILE WRAPPER**—Brochure describing automatic wrapping machine for wrapping various types of textile products. Illustrations of packages and all types of wrapping material.—HAYSSEN MANUFACTURING CO., Sheboygan, Wisconsin.

1117 **CUSTOM MADE THREAD GUIDES**—Illustrated booklet describing uses and physical properties of the "AlSiMag" line of Thread Guides. Advantages fully discussed with picture and specifications of each type.—AMERICAN LAVA CORP., Chattanooga 5, Tenn.

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(Continued from page 221)

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The dryer is furnished either with a folder, complete with static eliminator, or a roll-up device.

James Hunter Machine Co., North Adams, Mass.

For additional data, request item E-401, using business reply card on page 232.

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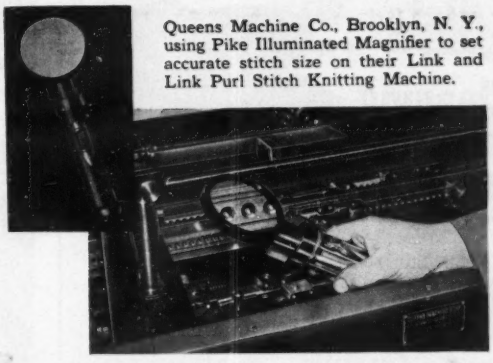
For heavy-duty industrial applications where "shock-loading" is the rule, a new platform beam scale called the "Load King" has been placed on the market. Lever system in platform is all-steel, as are other key parts. Poises on main bar are mounted on roller bearings for rapid positioning. Other features: 100% end loading platform that gives same reading regardless of location of load on platform; platform absorbs shock of moving loads without damage to scale; it will not tip.

The Yale & Towne Mfg. Co., Philadelphia Division, Philadelphia, Pa. (E-203).

New Heat Sealer for Thermoplastic Films

The "Sealine" 50 hand sealer for heat sealing directly on Polyethylene, Pliofilm, and other thermoplastic films utilizes a 2½-inch diameter, free-rolling, heated wheel that is said



Queens Machine Co., Brooklyn, N. Y., using Pike Illuminated Magnifier to set accurate stitch size on their Link and Link Purl Stitch Knitting Machine.

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MAY • 1951

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WRITTEN MONTHLY BY E. A. SNAPE, JR., PRESIDENT Benjamin Booth Company PHILA, PA.

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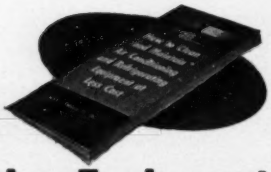

THIS handy little booklet tells all about good maintenance of air conditioning equipment. How to get rid of lime-scale . . . how to prevent it from forming. Tells how to fight slime, how to prevent it from fouling up lines, tanks, spray jets. Gives details on cleaning finned coils of air-washers . . . cleaning aluminum plates and screens . . . descaling cold diffusers . . . cleaning glass filter screens, etc.

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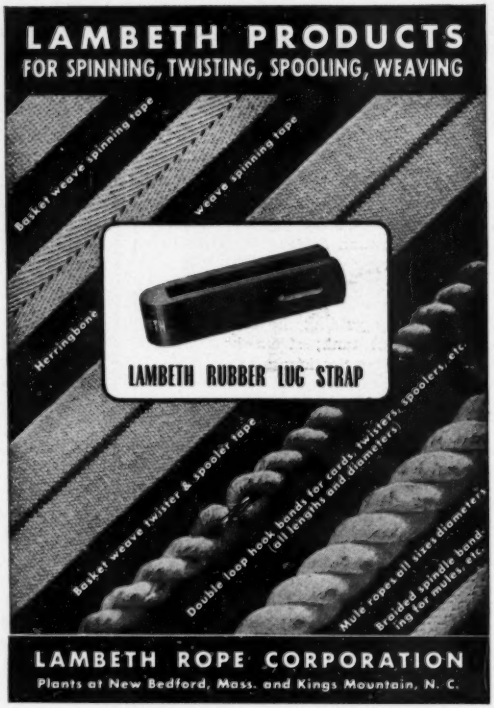
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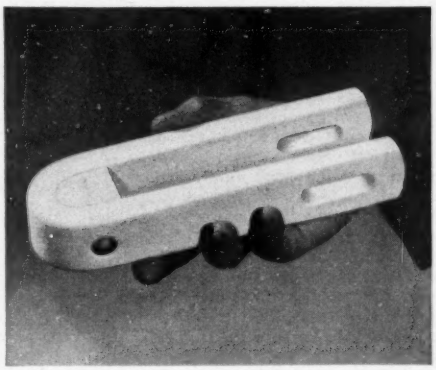

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to be ideal for sealing odd shaped objects as well as for end sealing of bags. The wheel design makes it possible to get over and around areas heretofore untouchable with a sealer. A variety of wheels for different applications may be obtained with "Sealine" 50. Weighs less than one pound. Special sealing fluid is fed to heated wheel through a wick arrangement. Temperature is adjustable, convenient, and accurate from 200 to 450 F. Heating element uses only 50 watts. Operates on either a-c or d-c.

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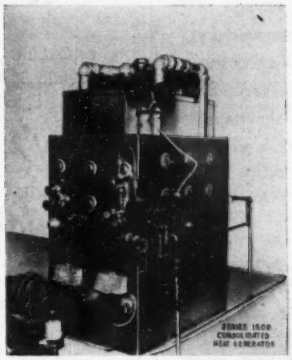
Ullman Products Corp., 152 Prospect Ave., Brooklyn 15, N. Y. (E-205).

Three Types of Steam From One Process Boiler

A series of boilers designed specifically for application in the textile industry seems, according to test results cited by the manufacturer, to be the answer to the demand for efficient, flexible, low-cost steam generation to give an added "push" to present equipment which is dependent on steam.

Known as the Consolidated Heat Generator, the boiler is constructed

Consolidated Heat Generator



to operate on present or old type process equipment. The one boiler can furnish three types of steam: a saturated steam with temperatures as high as 220 degrees to 290 degrees furnished in 15 minutes time; some saturation in the steam, with temperatures as high as 280 to 400 degrees in 20 minutes time; and a dry steam, absolutely no trace of moisture, with temperatures as high as 390 to 550 degrees in 35 minutes time.

All three types of steam can be furnished at the same time or separately. This boiler guarantees an above average recovery at all times and has cut the cost of installed equipment by better than 50% in fuel alone, the manufacturer claims.

Consolidated Boiler Corp., 126 Dartmouth St., Boston 16, Mass.

For additional data, request item E-109, using business reply card on page 232.

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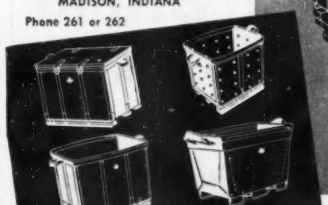

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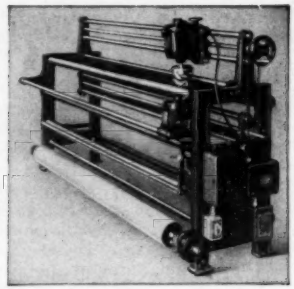

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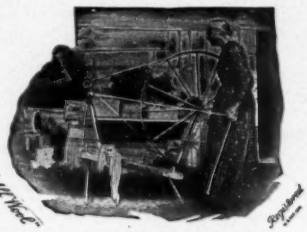

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Experienced mill men know that leather is the ideal material for long draft aprons, and roller coverings because, first and foremost, it provides *uniform* drafting . . . not affected by temperature changes . . . always pliable . . . no slipping . . . dependable . . . also that any oil dropping on it is absorbed and not passed on to the yarn.

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for
Smoother - Better Carding

REDMAN CARD CLOTHING CO.
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News in Brief

(*Continued from page 95*)

Analyzing Vinyon Mixtures. Two methods for quantitatively analyzing mixtures containing vinyon have been recommended by subcommittee B-1, D-13, American Society For Testing Materials. Two experienced operators are concluded to be able to obtain results for the same material which do not differ by more than 2% for mixtures of vinyon with cotton, wool, or viscose rayon using the Acetone method. Analyses of mixtures of vinyon and acetate rayon by the N-Butyl Acetate method should not differ by more than 1%. Reproducibility and accuracy of these methods were established by four participating laboratories.

Bale Tie Coating Object of Research. Suppliers and trade associations are interested in a research project, the objective of which is to produce a bale tie coating that is inexpensive in cost and application, will protect ties a reasonable length of time, and will not damage cotton. Mills in the past have objected to damage caused by asphalt-coated ties rubbing off onto the lint.

How Wool Moved. 14% less wool moved from the five principal Southern Hemisphere countries in the 50-51 season through December than for the same period in 49-50. This reflected depletion of stocks that accumulated during World War II. Future exports will depend on the current clips.

Heating and Drying by Infra-Red. In using infra-red heating or drying equipment, consideration should be given to infra-red absorption characteristics of the material to be treated and to the characteristics of the infra-red heater, as well as to such factors as uniformity of heat across the web, maintenance, and choice of correct air velocity—according to a report published by Lowell Textile Institute.

Pollution Control Recommendation. A 10-year period should be set within which to accomplish a

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No. 9 Portable Lacer

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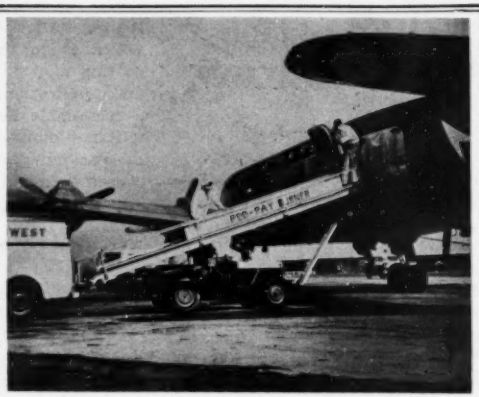

Red-Ray Burners being loaded on a Northwest Air Line Plane at LaGuardia Field, New York, for fast shipment to a western city.

RED-RAY BURNERS

are often shipped via air plane on instructions of customers, because as many have stated — they want their burners installed and operating at the earliest possible moment to take advantage of the savings Red-Ray Burners bring to the production line.

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reasonable program for cleaning up the nation's polluted waters, with cooperative efforts coming from private industries, municipalities, states, and the Federal government—recommendation in the President's water resources policy commission report.

Plastic Fabric Gives Stained Glass Effect. Flower bouquets, blocked in Ultron plastic fabric, look like a dressmaker version of stained glass windows in Heidi curtains, designed by Plastron, Inc., 419 Fourth Ave., New York City. The old block printing technique achieves a new contrast in plastic that lets the sunshine through the translucent "panes."

To Purchase 1951 Crop of American-Egyptian Cottonseed. The Commodity Credit Corporation will develop a program to purchase up to 5,000 tons of registered and certified cottonseed from the 1951 crop of Amsak and Pima 32 varieties of American-Egyptian cotton, according to Secretary of Agriculture, Charles F. Brannan.

Textile Men Study Defense Efforts

(*Continued from page* 141)

servation are being studied with reference to substitution of less critical materials (wool blankets from 56s grade wool to percentages of reused and reprocessed wool; cotton comforters for wool blankets; chicken feathers in sleeping bags to replace wool). Also, some of the high strength synthetic fibers offer possibilities of producing duck-type fabrics of superior service life.

Fabrics should be developed which will do the best possible job for each particular use instead of taking a cotton or wool textile merely because it is cotton or wool.

Where there is a genuine necessity to expand plant equipment to meet military requirements, recourse may be had by the manufacturer to DPA whereby additional facilities or machinery may be secured and depreciated for tax purposes within five years up to the amounts so authorized.

All QM contracts carry DO ratings which can be extended to obtain parts and materials needed to produce the end item purchased on the prime contracts.

Endorse and Expand Work of Public Relations Committee. The need for the textile industry to keep its public relations in good order and to have an organized plan for communicating information to the public is greater now than ever before and will become even more vital in the days ahead. By its very nature, the public relations program is and must be a collective effort.—Committee report.

The need was also cited for expanded efforts in the field of pub-

The ONLY Renewable Fuse with a custom-built, "Powder-Packed" renewal element.

"Kliplok" Clamps "lock like a vise" and "stay put". There's no chance for faulty contact between fuses and clips.

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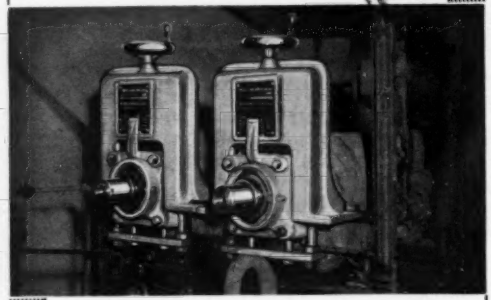
Apply Correct Squeeze Roll Pressure on EVERY Set



Norcross Pressure Regulators are now used in over 100 mills. By applying correct, uniform squeeze roll pressure for each specific set, they assure improved quality with higher operating speed and efficiency.

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by Fay H. Martin

Every carder, frame fixer, section man, and superintendent will find "The Roving Frame," by Fay H. Martin, an instructive pamphlet. Mr. Martin, who has long written articles for "Textile Industries," clearly interprets draft, twist, lay, tension, pressure of the presser, hyperbola curve, the winding of the bobbin, reverse twist on the roving frame, roving frame cones, tensions and compounds so that the student or practical man will profit by his explanation.

This is a reprint of 26 pages 8½ x 11 of a series of articles which were previously published in "Textile Industries," containing valuable information, illustrations, tables, charts and diagrams.

Fay H. Martin was a recognized authority on the roving frame. This book has been adopted by textile schools and vocational schools. May be secured in conjunction with a 3-year subscription to "Textile Industries" for $5.00 (Foreign, $11.00).

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lic relations. Plans are to place a field representative of Textile Mills Information Service in Washington.

Resolution on Priority. Priority assistance should be made available to the textile machinery industry to enable them to obtain sufficient materials to manufacture new machinery and also maintenance, repair, and operating supplies for domestic use.

Mobilization Committee for Textiles "Not Used." The committee was usually cordially received by the departments of the government, but seldom was it called upon to assist in matters pertaining to the textile industry. Names of qualified men were furnished (who would be available for OPS), but for a long time no action was taken; later several men with textile experience were placed in OPS and they do a good job, but they are not at the policy-making levels that the size and importance of the textile industry justify.

The committee on mobilization urged the necessity of stock piling long staple cotton and wool and urged a reduction in this country's cotton exports until the time there is no visible shortage of cotton. Committee is disappointed because government agencies have not used committee's facilities more and because committee was never approved officially by the government to act as an overall advisory committee for the entire textile industry.

Committee has served to coordinate the industry's own efforts and has kept the industry properly informed on matters which affected it.—Report of ACMI Mobilization Committee.

Membership By-Laws Revised. In the future, textile mill companies will be known as "active members" rather than Class A members, and suppliers will have the titles of "Associate Members" instead of Class B members. With few minor exceptions (notably knitting) any type of textile mill is eligible for active membership in the institute, thus removing a by-law which restricted membership to mills operating on the cotton system of spinning.

In addition, all plants of a corporation are included in the membership if any plants are included, removing the opportunity for one plant in a corporation to be a member with all other plants enjoying the benefits at the same time.

Wartime Difficulties—

Problems of Maintenance and Repair

(*Continued from page* 171)

This same problem was encountered in the last war, and was finally solved in a fairly satisfactory manner, after a great deal of misery on the part of mills needing repairs and manufacturers trying to supply them. It would seem logical for the people in Washington who are now faced with the same problem to go back into the archives and find out how it was solved previously. A fresh crowd is now in charge of this delicate problem and is having to make the same mistakes that were made by the other crowd in order to ultimately reach the same solutions.

THIS IS A GRIMLY serious proposition from the standpoint of the textile mills. There are certain key machines such as opening and picking machinery, slashers, warpers, and cloth room machinery which simply can not be allowed to stay out of order. The entire product of a fair-sized mill may go through four pickers and two slashers and one cloth brusher, or shearer. Having one card shut down out of 50, or one loom out of 500, isn't going to make much difference, but having one picker broken down where there are two

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Now we carry the same ample stock of these cool refreshable clothes for you in our New York shop. Grey, tan, blue. All sizes now. But best hurry.

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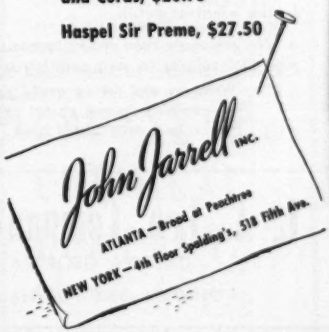
Haspel Cotton Seersuckers and Cords, $20.75

Haspel Sir Preme, $27.50



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pickers, or one slasher shut down where there is only one slasher, is ruinous.

Machinery wears out faster and requires more maintenance and attention in wartime than normally. During a boom, the machinery is run longer hours so that there is less time for routine cleaning and general maintenance, and it is also in the hands of less skilled help who will not take as good care of it. The very time therefore that the mill needs repairs the worst, it will have the most trouble getting them.

Regardless of any governmental attitude with reference to the production of new machinery, liberality with repair and maintenance items is a necessity. The tonnage of steel, iron, copper, and many other critical materials required to keep a good-sized textile mill in excellent repair for a year is trifling compared to the amount of these materials required for putting up even a small new building, for which there may be no earthly justification in a wartime emergency.

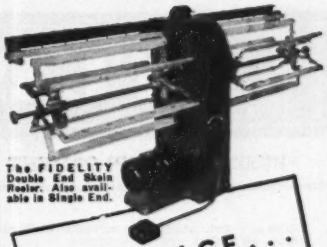
Many of our materials shortages at present are purely artificial. As soon as controls were announced, the black marketeers began to get busy and lay in stocks of materials which could illegally be sold at fat profits later on. The hoarders also did their bit to clean out existing stocks of things that were going to be scarce. A great many persons who had been planning building or expansion of some sort, immediately rushed into the market to try and get scarce materials before it would be too late. Many of these artificial shortages will vanish quickly if war demands are not great enough to continue to produce real shortages, and production of apparently scarce articles catches up with demand.

Much of this demand is due entirely to inflation, which has put large sums of money into the hands of persons anxious to invest it in something tangible before more inflation depreciates its value. If the government pursues its present inflationary policy, this situation will get worse, but on the other hand, if taxes are increased and the amount of money in circulation is diminished, a tremendous number of apparent shortages would be quickly converted into surpluses.

During a war, or a period of military preparation for expected war, is a poor time to indulge in feverish expansion of facilities having no particular wartime value, when such expansion may rob established and vital industries of necessary equipment and repairs for such equipment.

It seems to us far more important to keep a textile plant properly provided with motors in good repair than to use the same amount of copper for wiring up an outdoor theater. Steel for the enlargement of a textile mill would seem to be more important than steel for the extension of a football or baseball stadium or a horse park.

The various textile industry associations should be prepared to fight, if necessary, for liberal supplies of these vital repair parts. Very little critical materials are involved in making these parts, and immense quantities of critical production will be involved by lack of them.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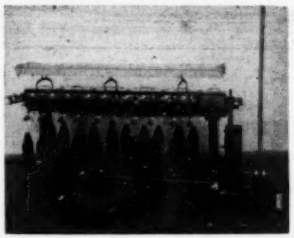

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6—H&B 3" gauge spinning frames, 208 sp., 4-sp. band drive, Whitin long draft.
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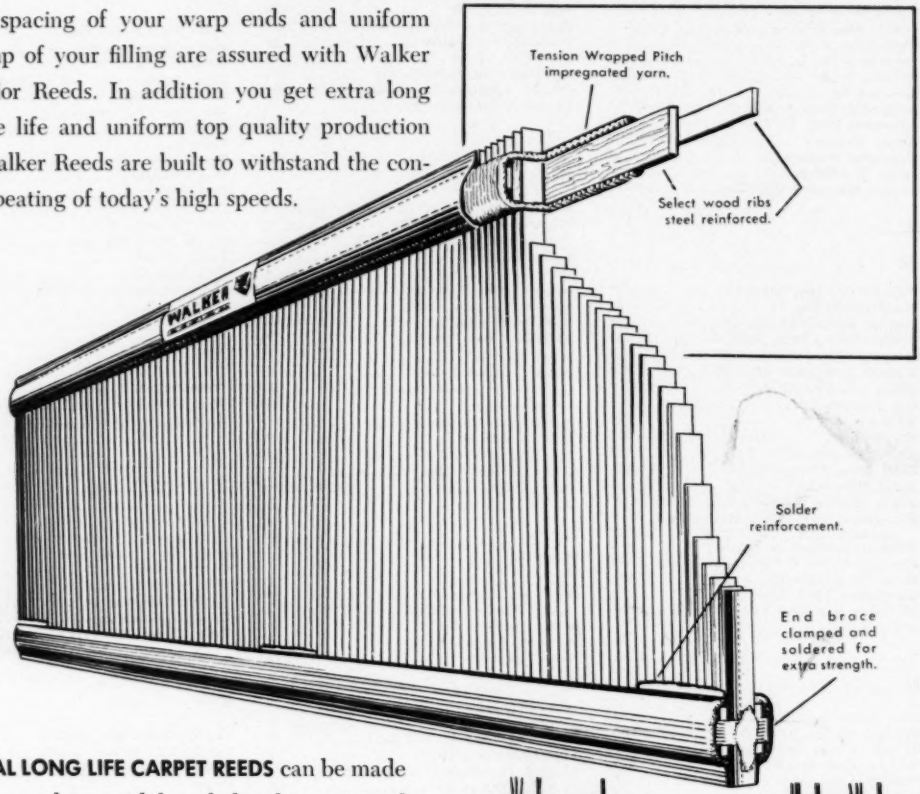
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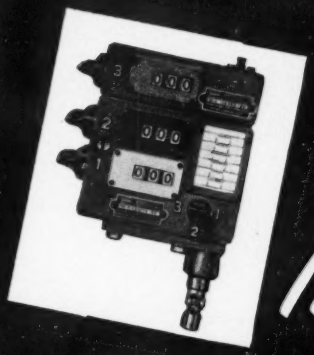

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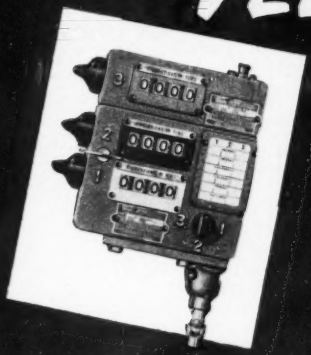

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